

## About Our CONTRIBUTORS

LOUIS W. SCHULTZ, JR. (D.D.S., 1920; B.S., 1922; M.D., 1928, University of Illinois) has on two previous occasions contributed to this magazine: In September, 1937, appeared his TREATMENT BY INJECTION FOR SUBLUXATION OF THE TEMPOROMANDIBULAR JOINT; in May, 1938, a report of a case of ANODONTIA. Doctor Schultz who specializes in oral surgery in private practice is on the staff of the Research and Educational Hospital, University of Illinois College of Medicine, and the College of Dentistry. In this issue he presents for the first time an original technique for the correction of harelip which seeks to preserve all the available tissue so as to result in a full rather than taut lip after operation.

FREDERICK CHARLES THOROLD, D.D.S., received his degree in 1915 at the University of Michigan College of Dentistry. Doctor Thorold is an exodontist and oral surgeon who presents in this issue a description of his interesting electro-acoustic foreign body detector which the general practitioner should find of practical value.

CLINTON T. FLEETWOOD, D.M.D. is a graduate of the North Pacific Dental College, the class of 1917. Doctor Fleetwood is a general practitioner with a special interest in gold foil and cast restorations. Readers will find the description of a water swager in Doctor Fleetwood's article in this issue of particular interest as it is a distinct innovation in laboratory procedure.

# THE DENTAL DIGEST

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708 Church Street, Evanston, Illinois

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### *New Clinical Studies*

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# A New Operation for Bilateral Cleft Lip

LOUIS W. SCHULTZ, JR., D.D.S., M.D., Chicago

VARIOUS METHODS of correcting bilateral cleft lips are described in the literature. The principal fault with most techniques is that the vermillion mucous membrane of the central and lateral buds of lip tissue is removed. This tissue, I believe, should be conserved in building the new lip.

Other shortcomings of most bilateral lip operations are that they result in (1) a lip that is too flat; (2) a lip that is too short from side to side; (3) too long from the columella to the muco-cutaneous border; (4) that the vermillion border and the muco-cutaneous line of the lip are too straight; (5) that the lower lip protrudes because of the lateral shortness of the upper lip.

Brophy points out that "All the normal parts are there, but they have failed to unite." With this in mind, I have changed my technique in operating on bilateral cleft lips so as to prepare and unite these parts by destroying no more tissue than necessary to get a normal contour and to imitate Nature as closely as possible. This is the first objective in reconstructive surgery: to produce a natural effect.

The question of large and small central buds enters as an indication or contra-indication for the type of operation I am about to describe. The larger the central bud, the easier the operation; the smaller the bud, the more difficult the operation. In the latter case, however, there is more tension exerted by the lateral segments of lip tissue and the tension develops this small portion of tissue to double its size and in some cases even to triple its size in a few weeks' time. The technique I have developed can be used in more than 80 per cent of these cases with gratifying results. There is a small percentage of cases in which there is an absence of the central bud; also a few cases in which the central bud is too small to make a conservation of the vermillion tissue helpful.

## Technique

1. Sharp dissection of the tissues involved is done with a number 11 Bard-Parker knife. This knife is sug-

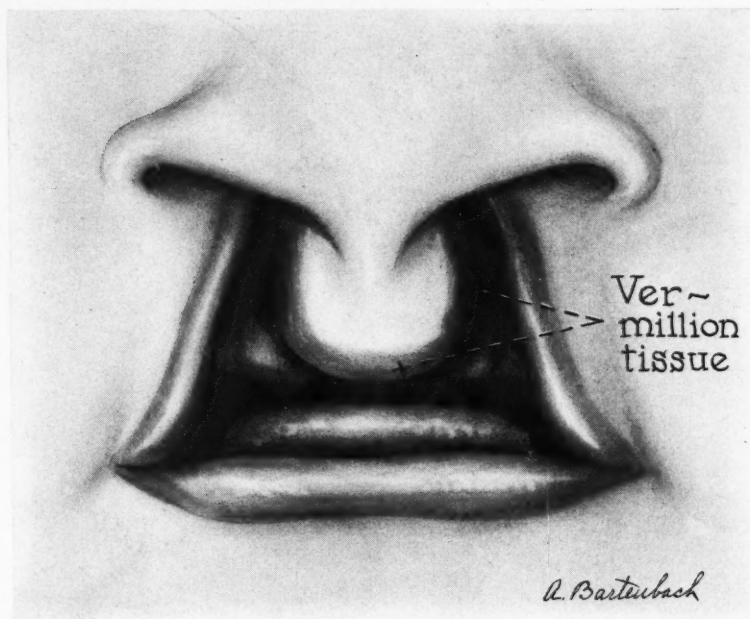


Fig. 1—Bilateral cleft lip.

gested because the bayonet-shaped point on this scalpel permits a start at the muco-cutaneous junction. Cutting is done through the vermillion

tissue and through half the thickness of the lip.

2. The next leg of the incision on the lateral segment is started high in

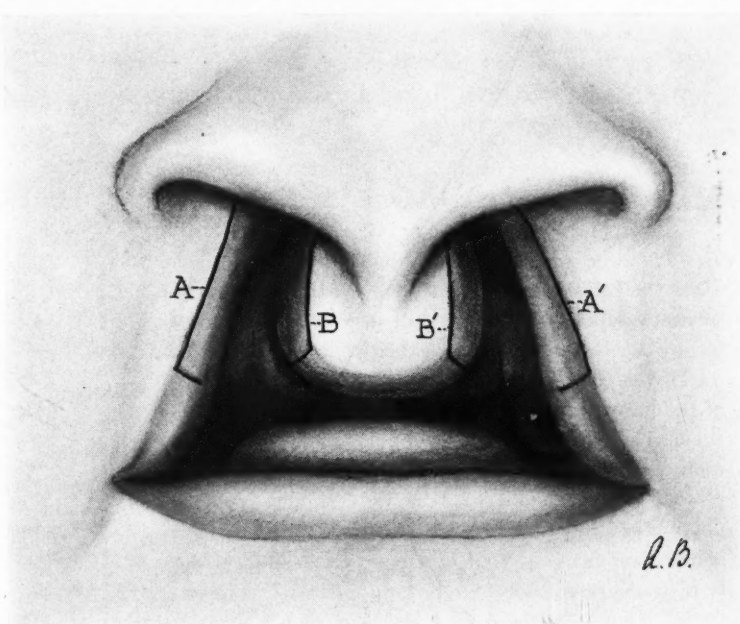


Fig. 2—A and B, and B' and A', Lines of incision saving vermillion tissues on central and lateral segments.



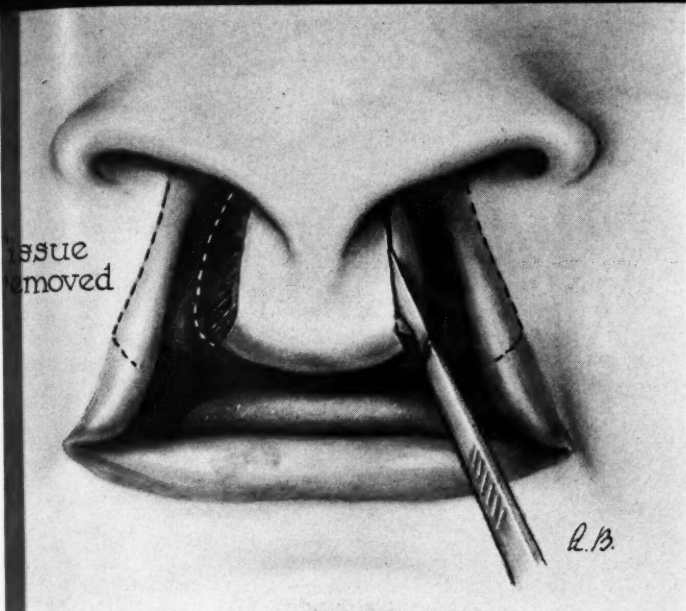


Fig. 3—Preparation of skin and mucous membrane borders of central bud.

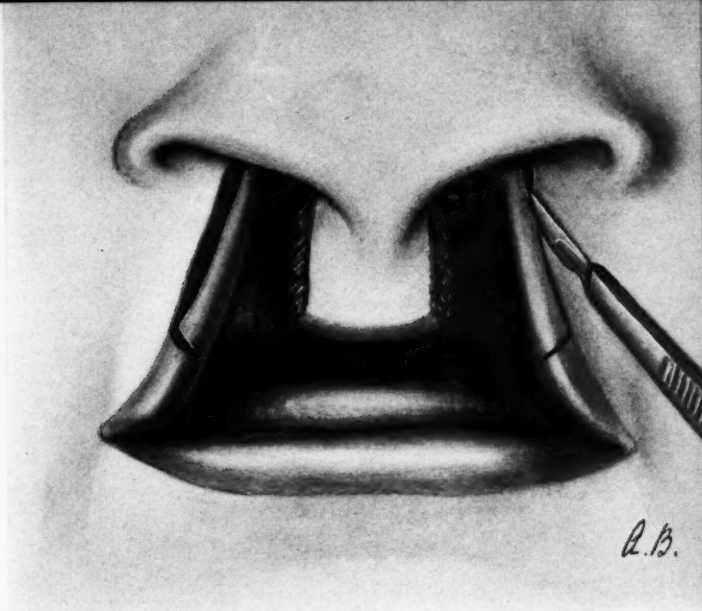


Fig. 4—Preparation of skin and mucous membrane borders of lateral lip tissue.

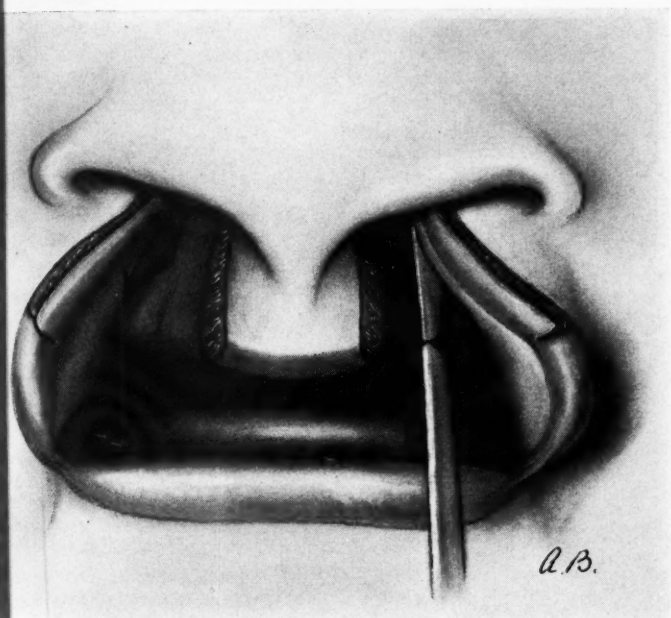


Fig. 5—Incision high in vestibule to free vermillion tissue.

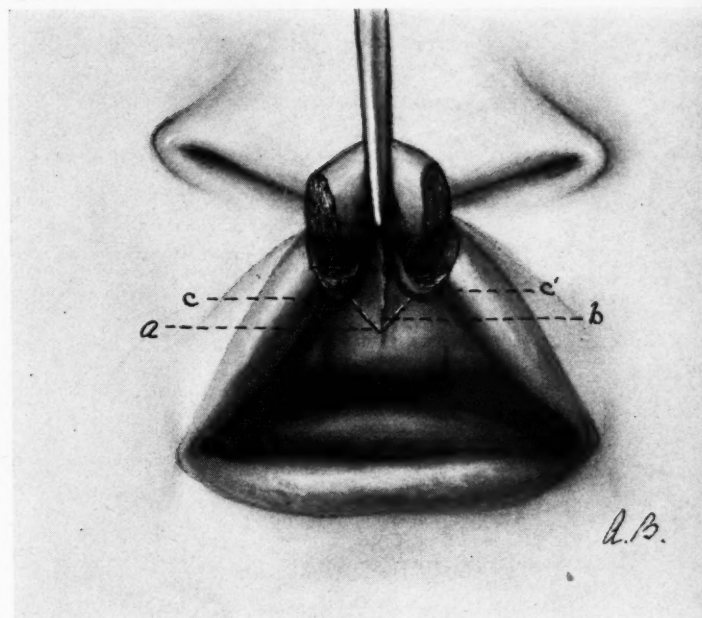
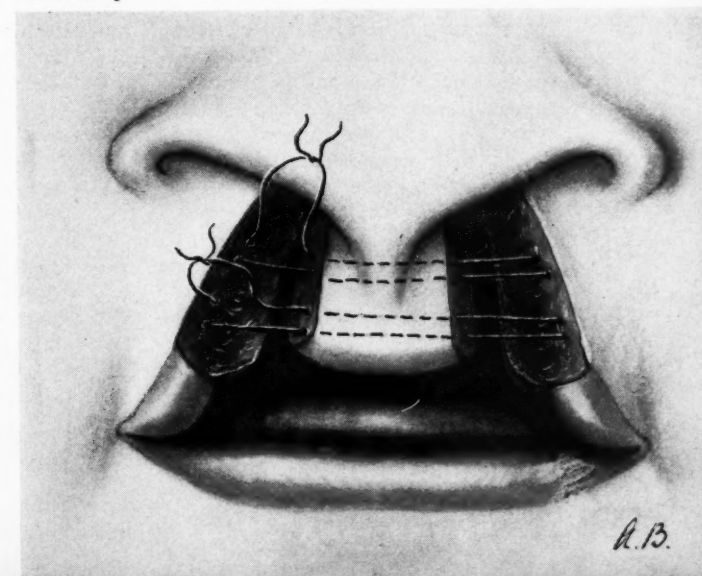
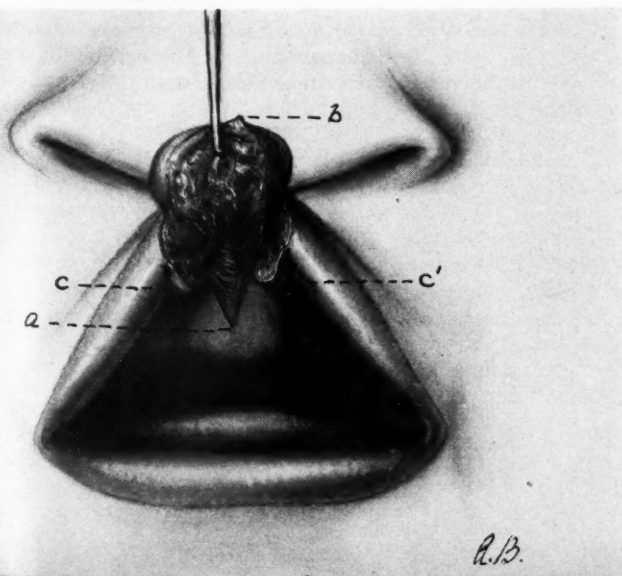


Fig. 6—Lines of incision, a-c and b-c', under central bud at reflection of mucous membrane from gum to lip.

Fig. 7—Mucous membrane and muscle dissected from bone to get fullness of central segment of lip tissue; b, tip of mucous membrane flap dissected and raised from point a; c and c' are flaps turned inward from lateral segments.

Fig. 8—Two buried mattress sutures approximating muscular segments of lip.



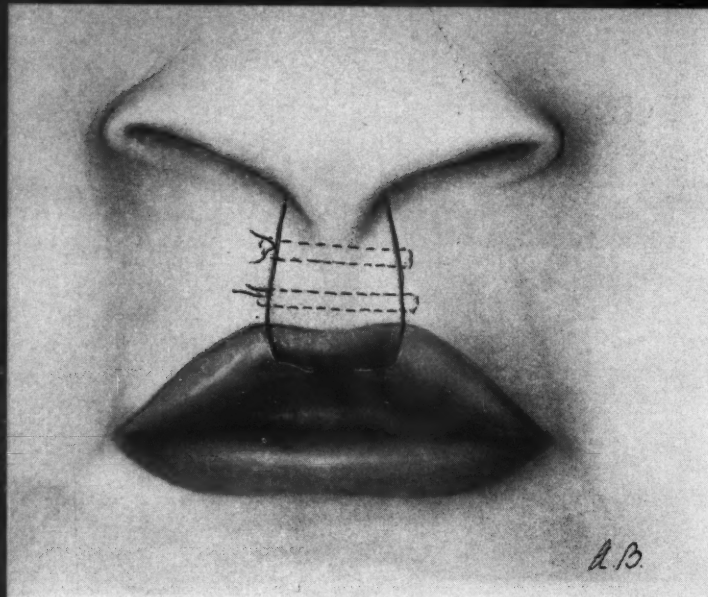


Fig. 9

Fig. 9—Buried muscle sutures.

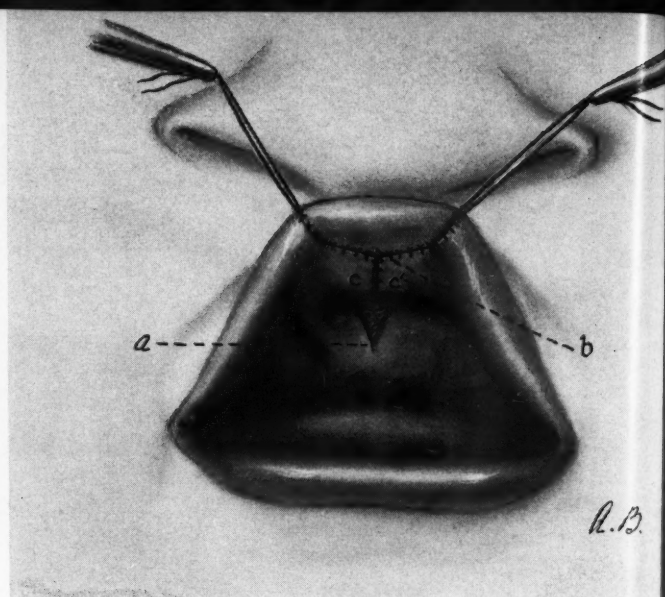


Fig. 10

Fig. 10—Suture lines of closed muscular and mucous membrane tissue. Point b was raised from point a; c and c' are flaps of mucous membrane turned in from lateral segments of lip tissue.

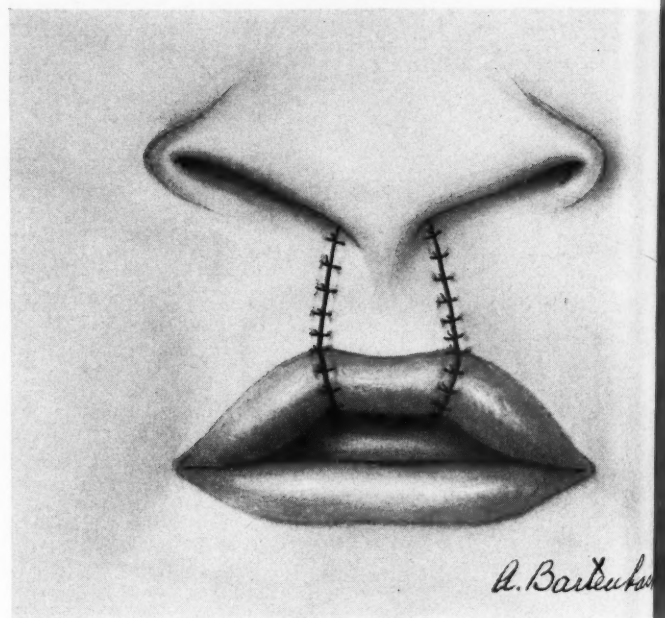


Fig. 11

Fig. 11—End-result of operation before sutures were removed.

the vestibule of the nose and is carried down in a straight or curved line to meet the previous incision as shown in Fig. 2, lines A and A<sup>1</sup>.

3. This flap also is carried through half the thickness of the lateral segment of lip tissue and is turned inward to meet a similar flap prepared on the opposite lip segment.

4. The central segment is prepared in a similar fashion, getting all the length and width of lip tissue possible.

5. Incisions are made through the vermillion tissue from a point on the muco-cutaneous junction. All the vermillion tissue possible is saved on the central segment at its lower border, as shown in Fig. 3. Only the

vermillion tissue on the lateral borders of the bud is discarded, but even this tissue should be saved if the operator finds it possible to do so, because it is advisable to conserve all the available tissue.

6. Incisions are made in the vestibule on each side at the junction of the lateral segment and vestibule, as in Fig. 5, and by blunt dissection, the tissue is relaxed to allow proper coaptation.

7. The central bud is now dissected from below and is split in its entire length, as in Figs. 6 and 7.

8. Chromic gut sutures are placed in the lateral segments and they are drawn together to approximate the central bud as in Figs. 8 and 9. The

muscle, skin, and mucous membrane are carefully united to produce a lip having full thickness and of good contour (Figs. 10 and 11).

9. After healing a course of massage will hasten the softening, and the result should be a normal lip with a cupid's bow.

#### Advantages

This operation results in (1) full thickness of the lip; (2) normal length from columella to muco-cutaneous border; (3) normal width from side to side; (4) normal outline of border of upper lip; (5) normal relationship between the upper and lower lips.

25 East Washington Street.



# An Electro-Acoustic Foreign Body Locator

FREDERICK C.  
THOROLD, D.D.S.,  
Flint, Michigan

FEWER NEEDLES ARE broken now than formerly, because of improved operative technique and because needles of greater tensile strength are now made. The broken needle accident, however, still occurs. The recovery of a needle or similar foreign body is difficult and often disappointing. To aid in recovering foreign bodies a definite procedure was sought and the instrument to be described here was developed. After a foreign body has been located through a roentgenogram, the procedure still entails blind probing and the attempt to locate by sense of touch. With each muscle movement by the patient or operator the needle is apt to travel farther into the tissue. Great concentration and coordination of the senses of touch, hearing, and sight are imperative.

## Electro-Acoustic Device

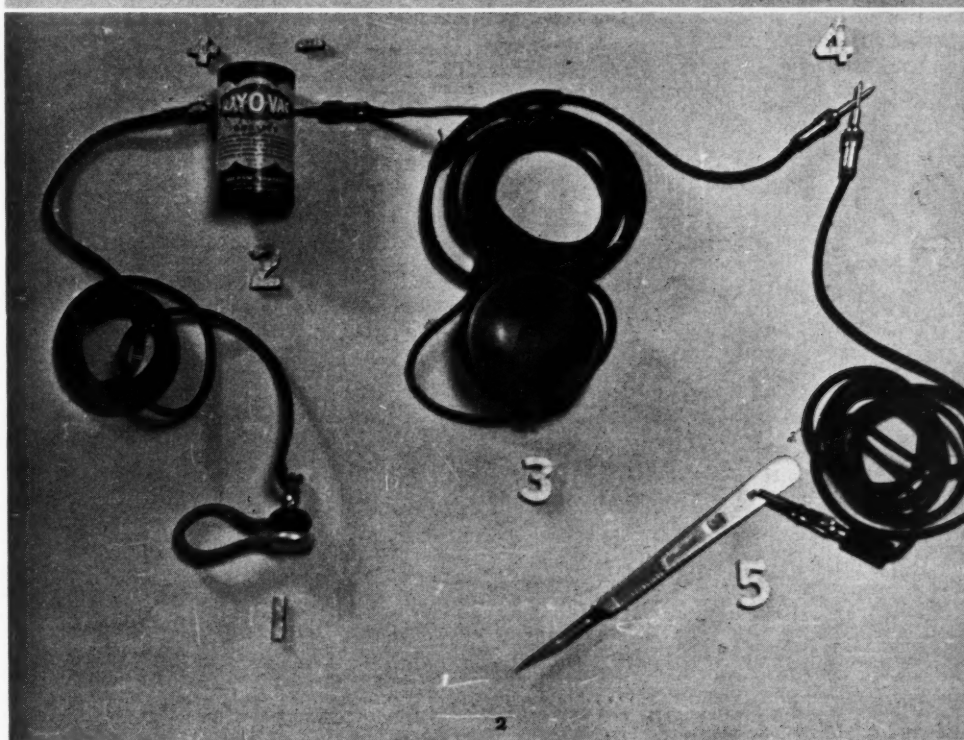
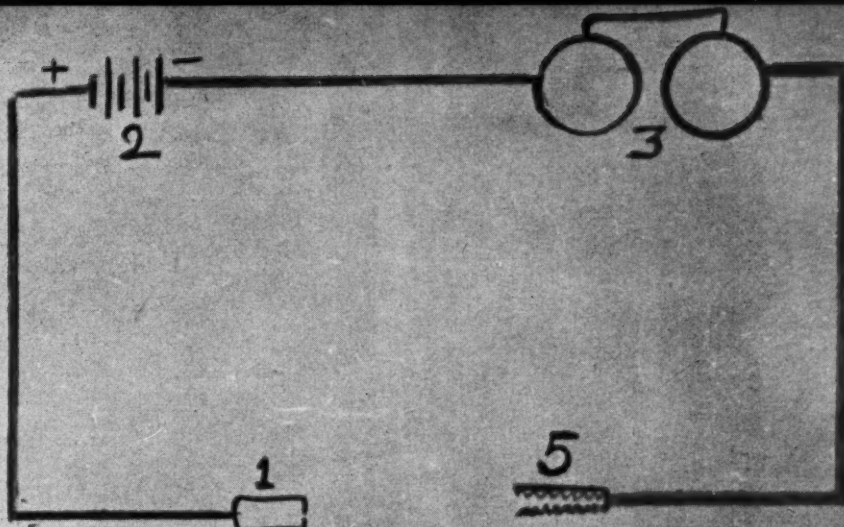
With the electro-acoustic device there is no indicator or light to watch, nothing to distract the operator's attention from the field of operation when contact is made with the metal object. This appliance is easily made. It can be quickly assembled from readily obtained parts, or can be made into a neat, mobile piece of surgical equipment.

**Equipment**—The parts needed for the locator are: (1) one small metal box with hinged cover (a safety razor case, for example); (2) two flexible

Fig. 1—Electrical diagram of circuit: clamp (1) for making contact with patient; flashlight battery (2); radio headphones (3); clamp (5) for attaching searching instruments to cord.

Fig. 2—Graphic layout showing relation of several parts in the hook-up. See text for further description.

Figs. 3 and 4—Battery box (6) has four radio panel jacks fastened through holes in one end.





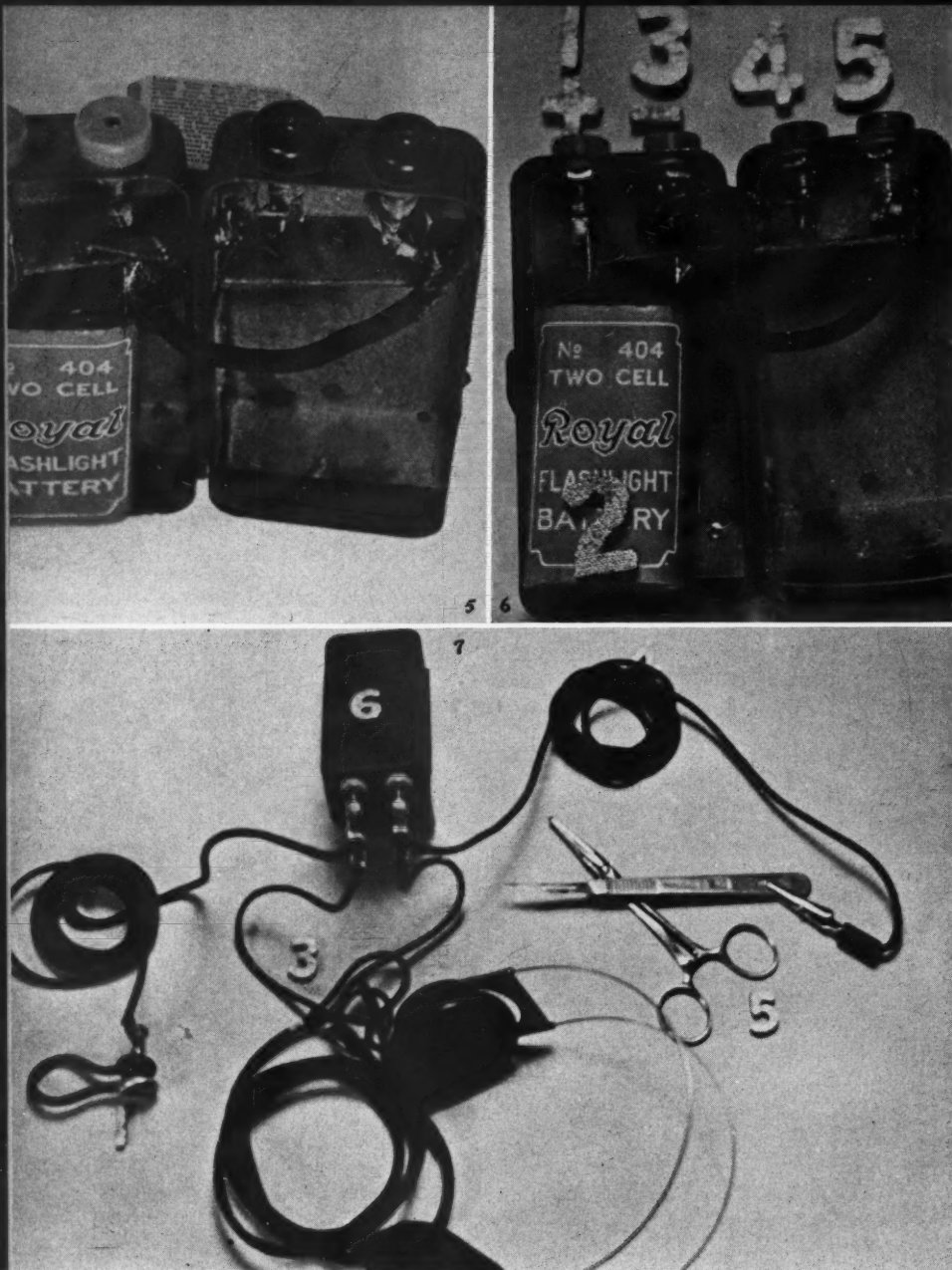


Fig. 5—Case open with two pairs of panel jacks in place; two-cell flashlight battery (2) in one side.

Fig. 6—Jacks are shown as 1, 3, 4, and 5, the two light-colored ones designated as positive and negative. These markings correspond throughout illustrations. One side of battery (2) is connected to positive jack 1; negative jack 3 is jumped to jack 4, and jack 5 is connected to the other side of the battery.

Fig. 7—Several wires plugged into their respective jacks; a knife in clip 5. Body contact clamp is shown at 1. Connected, the appliance is ready for use.

phone cords with a phone plug at each end; four radio panel phone plug jacks, of two colors to facilitate proper connections; (3) two sharp-jawed radio clips with pyralene handles; (4) a single or double unit radio headphone; (5) a flashlight battery; and (6) some muslin.

**Method of Assemblage**—1. The flexible wires are placed into tubes made of muslin; the ends are fastened with

rubber bands; the tips and clips are left exposed for use.

2. These tubes are now autoclaved, and by wrapping the battery box in a sterile towel, the whole is now surgically clean and acceptable in any operating room. The tubes of muslin also serve the purpose of keeping the silk-covered wires from being soiled with blood, and thus becoming unrepresentable after use, as washing

them would corrode the copper wire and be impracticable.

3. Fig. 1 is an electrical diagram of the circuit: A clamp (1) makes body contact with the patient; the battery (2) is a two-cell flat-type flashlight battery; ordinary radio headphones (3) are used. One can use the double type, one for each ear, or the single phone as illustrated; the clamp (5) attaches the searching instruments to the cord.

4. Fig. 2 is a graphic layout, depicting the relation of the several parts. A single flashlight cell is shown with its terminals marked positive (+) and negative (—). In the actual wiring the polarity of the current does not matter. I have designated them for a clearer conception of the hook-up. The wire attached to the body contact is seen connected to the positive terminal of the battery: one headphone wire is attached to the negative side of the battery and the other phone wire to the wire leading to the clamp that holds the searching instrument.

5. In Figs. 3 and 4 the battery box (6) is shown made from a safety razor case. Through holes in one end four radio panel jacks are fastened. Fig. 5 shows the case open with the two pairs of panel jacks of different colors in place and the flat-type two-cell flashlight battery (2) in one side.

6. Fig. 6 shows the hook-up: one side of the battery (2) is connected to jack 1, marked positive; jack 3, the negative side, is jumped to jack 4, and jack 5 is connected to the other side of the battery.

7. The several wires are plugged into their respective jacks (Fig. 7); a knife is in clip 5; clamp 1 is the body contact clamp. Connected, the appliance is now ready to use.

**Function of Appliance**—After the appliance has been constructed, one should become familiar with its function:

1. Attach body clamp 1 to a piece of raw beef in which a needle has been buried.

2. With a scalpel in clip 5, cut down on the needle. As soon as the meat is entered with the knife a hissing or frying sound will be heard. This indicates that a small amount of current is passing through the tissue to contact 1. When contact is made with the metal object an unmistakable sharp loud click will be heard. This indicates that a direct short has been made and the magnets of the earphone

have snapped the diaphragm up and are holding it. No sound will be heard at this time.

3. When removing the knife from the foreign body, the short is opened and the magnets release the diaphragm; another sharp click will be heard, and the hissing will be audible if the knife is still in the tissue. From these definite sounds one can soon locate the direction of the long axis of the needle, as well as its length, and thus accurately visualize its position in the soft tissues.

4. From this information it should be easily recovered and through a much smaller incision than if an incision large enough for complete visibility of the object has been made.

#### Use of Device on Patient

1. To use the locator on a patient, clamp 1 is clamped to the tongue,

hand, or to a piece of lead foil moistened and wrapped tightly about the forearm to make a good tight contact, which is essential.

2. Needless to say the foreign body will have been first located roentgenographically, in at least two intersecting planes, and the part, if possible, immobilized with a splint in the same position in which the roentgenogram was taken, to keep the object from shifting as a result of muscle movement.

3. If possible, the incision should be made at right angles to the long axis of the metal object.

4. When contact is made with the foreign body, which may occur during the initial incision, and the click is heard, the knife should be left in contact and a small pair of hemostats substituted in the clip.

5. With the knife acting as a di-

rector, follow along the knife to the object. A click will be heard when the object is reached.

6. It should not be difficult to grasp the foreign body with the forceps, and, if the object is a needle, it may be possible to push it through the tissue when it can be grasped and removed.

Tendons which often feel like a lost object to a probe are easily distinguished from metal and a tendon sheath which often hides a needle can be explored with little or no injury with a large caliber sewing needle clamped in the searching end clip.

Familiarity with this electro-acoustic locator will suggest many uses and ideas, and I know will aid in the recovery of these elusive objects.

400 Sherman Building.

## Clinical Digest

### THE TREATMENT OF INSOMNIA

[Louis J. Karnosh, M.D.: *The Journal of the American Medical Association*, 113:1322 (September 30) 1939.]

INSOMNIA IS A chronic inability to sleep. The term connotes a solitary symptom of a condition, other causes of which, physical, pathologic, or psychic, are not detectable. The person with insomnia often believes that persistent loss of sleep is a calamitous disturbance — a foreboding of death or insanity. There is no evidence to support such fears; moreover, investigation has not revealed any reason to think that insomnia, in the absence of physical disorders, saps the vitality and health. Nearly half of all persons with a chronic insomnia belong in the psychoneurotic category.

#### Treatment

1. Patients must be reassured that insomnia does not portend insanity or death; they must be assured that in itself it will not lead to a physical or nervous breakdown.

2. Shallow, fitful sleep may be natural for the patient and does not call for special treatment. The patient should be told that, although such sleep may not be satisfying to him, it has no significance.

3. If the rambling thoughts of "free association" during the twilight state of sleep, the interval between going to bed and actual sleep, is a morbid and anxious experience, the problems causing them must be cleared up during waking hours. The patient will be reassured merely by being informed of the phenomenon of the free association state which he may otherwise regard as something peculiar to his own condition.

4. Counting sheep and such devices are tricks to repress unpleasant ideas, and thus, instead of inducing sleep, lead the patient away from sleep.

5. Muscular relaxation is essential to sleep. For this, a good bed and a quiet room are obviously needed. The bath is not uniformly helpful and may be upsetting. Hot baths and massage are of questionable value.

6. An afternoon nap will demonstrate to the patient that he is capable of sleep and will teach relaxation. It will not interfere with sleep at night.

7. If possible the psychologic tension causing wakefulness should be ascertained and removed. This is more helpful than any sedative.

8. Sedatives should be regarded only as an adjunct, not as a device to

cover the fundamental difficulty. The newer barbiturates which are rapidly disintegrated, may be given in one full therapeutic dose at bedtime, but the dosage should be reduced and discontinued as soon as possible.

9. Intravenous use of crystalline vitamin B<sub>1</sub> has been found effective, especially in treating alcoholism and other toxic-exhaustive states, such as hyperthyroidism.

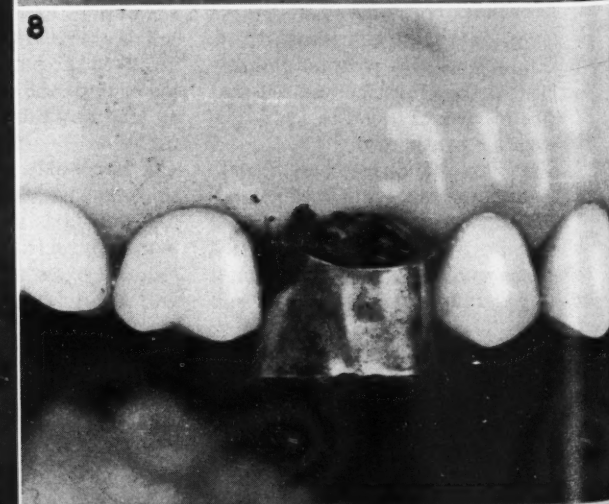
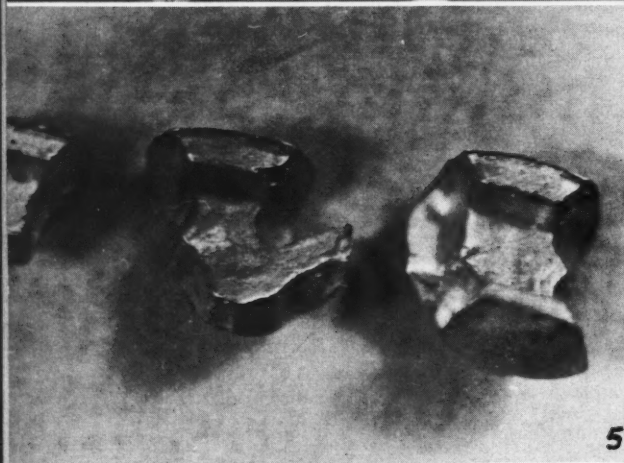
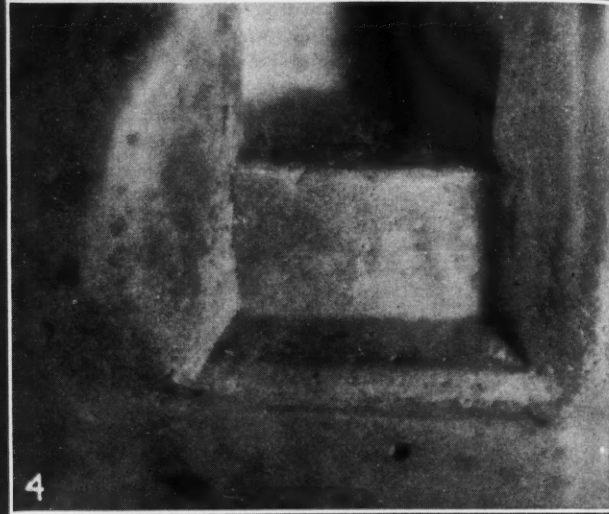
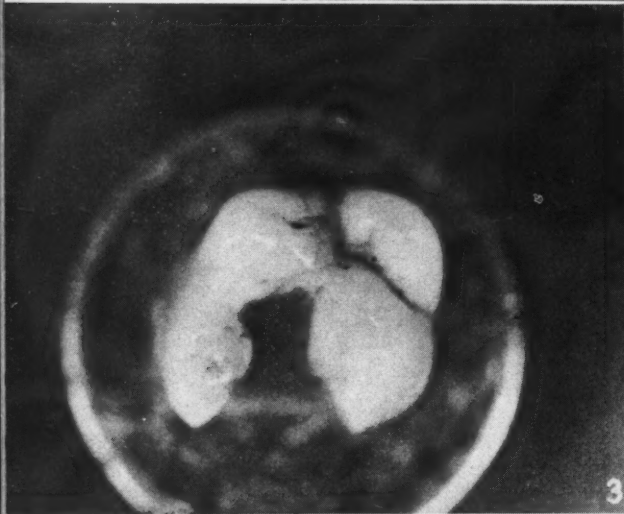
10. Ordinary insomnia, irrespective of the cause, seems to be readily modified by large doses of ascorbic acid, the vitamin C principle.

Old people have a propensity to many deficiency diseases with attendant insomnia. Large doses of vitamins B<sub>1</sub> and C will treat the cause and stay the insomnia.

#### Conclusions

Modern medicine is veering away from orthodox sedatives with their toxic potentialities in the treatment of nervousness and insomnia. Instead of masking the symptoms, it is attempting to treat the cause with vitamin replacement and psychotherapy. Metrozol convulsions and insulin shock are employed only in strictly psychogenic forms of insomnia.







# Patterns for Cast Restorations by the Indirect Method

C. T. FLEETWOOD, D.M.D., Seattle

THE INDIRECT METHOD of making a wax pattern for the production of a cast restoration for lost tooth structure has been relegated to the background by most operators for most of their cases; but when a difficult case presents, the indirect method is used. If a satisfactory result is obtained in difficult cases, is it not reasonable to assume that satisfactory results can be obtained in the less difficult cases?

The physical properties of wax are such that it is impossible to force wax into a cavity once and have a perfectly adapted pattern: There will be contraction of many degrees in the wax as it approaches mouth temperature, and over this, there is no control by pressure. Correction of the pattern, therefore, is necessary either by mechanical means directly in the mouth, or correction through physical properties of the wax and material for dies by the indirect method. There is also the problem of establishing correct occlusion, especially when any amount of tooth structure is to be replaced. It is difficult to carve the occlusal surface in the mouth and have correct functional relations, unless the patient is allowed to establish the centric and lateral markings. In making these markings the wax will be distorted to some extent. In the direct method

this distortion will have to be corrected mechanically. By the indirect method the correct occlusion is easily obtained.

Cavity preparation should have a great deal of consideration. Many failures are due to lack of proper cavity form and a consideration of histology, especially of the enamel, as sound enamel is essential at the cavo-surface in finishing the inlay. The gingival bevel should be properly made. The bevel should be carried around the bucco-lingual and linguo-lingual angles. Two-surface cavities must have a dovetail preparation in the occlusal to seat the inlay mechanically against the resistance of cement.

The rubber dam should be used whenever possible. Finer cavities can be cut in a dry field. Inlays can be set better and with greater ease and a saving of time. There are few cases in which the dam cannot be applied.

A method of obtaining an inlay pattern by the indirect method is presented here, which is based on physical considerations. Each detail has been placed in the technique for a definite reason, so that if this chain of details is not followed the chances for a successful pattern will be diminished. I would suggest that those who try this method, first carry it through several times on a typodont before using it in the mouth in order to become familiar with the details.

## Technique

**Cavity Preparation**—1. Use lightning strip through contact to reduce sharp edges, if any are present, or open the cavity. Then apply the rubber dam (Figs. 1 and 2). No ligatures are used except to pass the rubber through contact points.

2. Establish the outline, extending to immune area or to sound enamel structure. Two-surface cavities must have a dovetail in occlusal (Fig. 3).

3. Establish resistance.

4. Cut cavo-surface in accordance

with the histologic direction of the enamel rods.

5. Gingival bevel is carried around linguo-lingual and bucco-lingual angles, giving a beveled angle (Fig. 4). Fig. 5 demonstrates in the casting the gingival bevel and linguo-lingual and bucco-lingual cavo-surface angles.

6. Disk the cavo-surface to eliminate the possibility of short rods. The disk is carried into the gingival and lingual angles, and it is allowed to follow around the angle.

7. The dam may be removed as it may interfere with the band in taking the impression.

**Impression Taking**—1. The band is made of seamless copper, 36 gauge, one-half inch long.

2. Fit the band slightly larger than the tooth. Tight-fitting bands should never be used.

3. Trim the band to the height of the contour on the buccal and lingual. The band should extend one-fourth inch above the occlusal surface. Fig. 6 shows bands cut for two-surface and three-surface cavities. Fig. 7 shows a band on the tooth with a buccal contour. The lingual should be contoured in the same manner.

4. Always anneal the band.

5. The band may be filled with wax by melting it in, or by filling with soft wax and melting the end that is placed on the tooth with a hot instrument. There must be no folds in the wax, as there might be in the latter case unless melted.

6. Pass the band over the flame to seal the wax to it. Keep the cavity free of saliva with cotton. Do not dry.

7. Place the band over the tooth, forcing it down until the proximal edge of the band just covers the gingival cavo-surface (Fig. 8).

8. Hold pressure and force a thin plastic instrument through the interproximal space near the gingival, both at mesial and distal. This straightens the band, so that it will not hook under the contour of the adjacent teeth (Fig. 9). The band must be contoured and the plastic in-

Fig. 1—Rubber dam in place.

Fig. 2—Rubber dam over all molars showing accessibility and clean dry field for operating.

Fig. 3—Dovetail in occlusal surface of two-surface cavities.

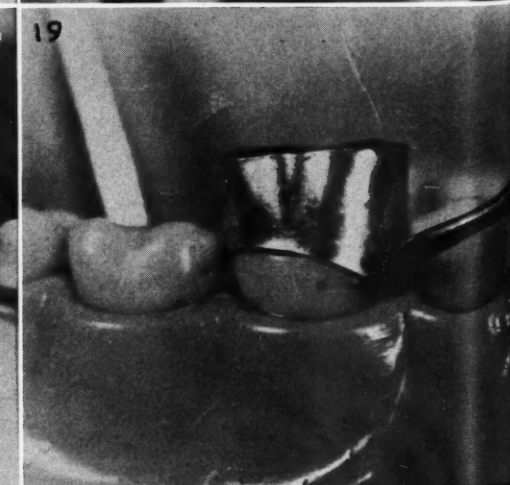
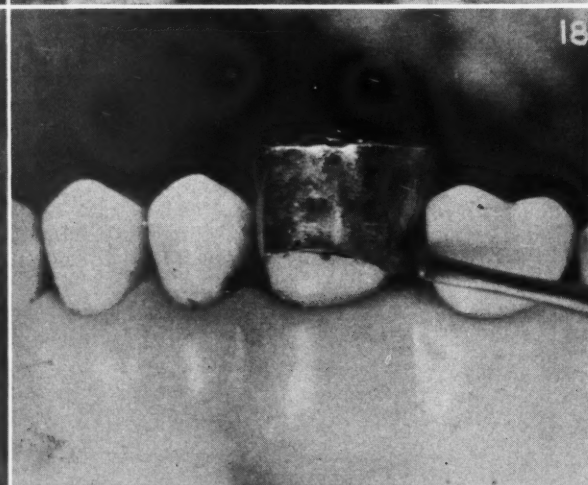
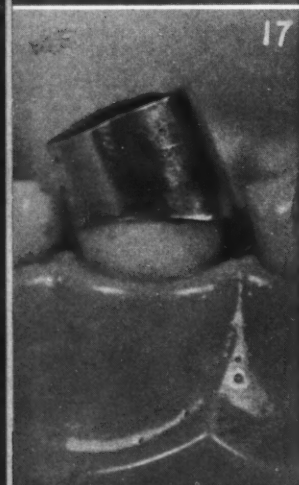
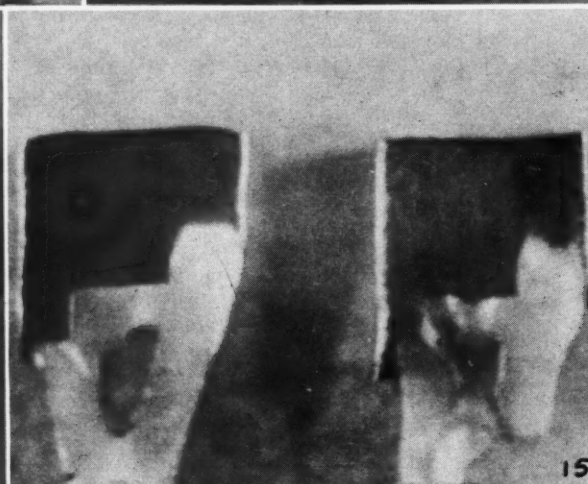
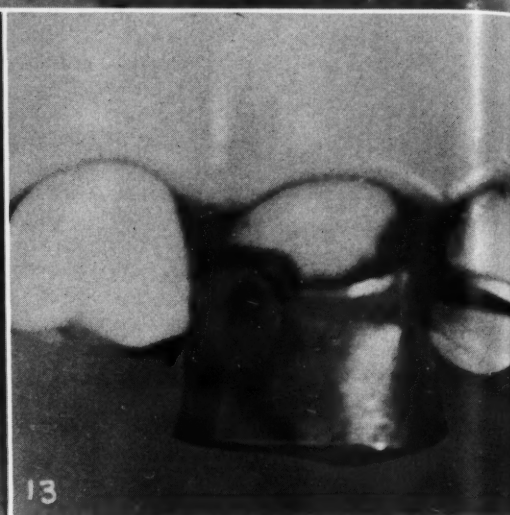
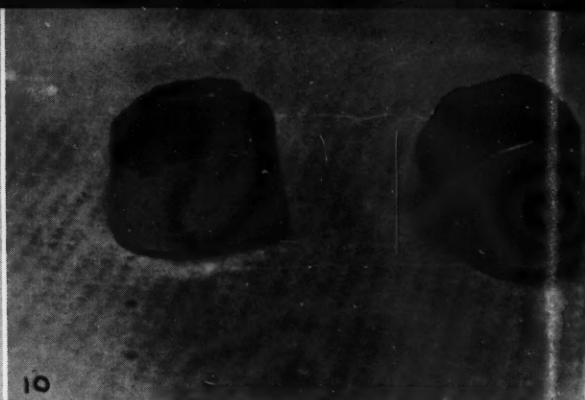
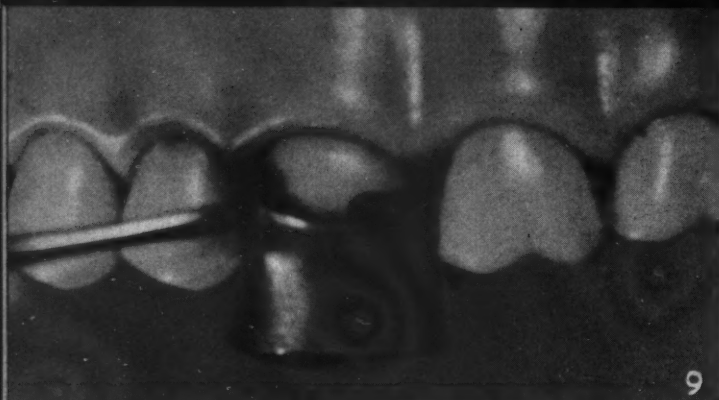
Fig. 4—Gingival bevel and beveled angles.

Fig. 5—Castings showing bevel in angles and gingival.

Fig. 6—Bands cut to approximate contour before filling with wax.

Fig. 7—Band on tooth.

Fig. 8—Band filled with wax and forced on tooth.





strument used in the interproximal space, so that the band can be easily removed.

9. Cool with air and remove. This is considered a preliminary impression.

10. Examine the impression. If the band extends gingivally to the height of the contour on the buccal and lingual, trim to that point. Trim the band at the gingival if it extends more than slightly below the gingival cavo-surface (Fig. 10). Left, as removed; right, as trimmed. Undercuts in cavity can be observed in the wax at this time.

11. Wash carefully all bits of wax from the cavity.

12. Pass proximal portions of the band over a flame to insure the adherence of this part of the wax to the band (Fig. 11).

13. With syringe, flow water at 165° into impression. The band is held so that water flows into the impression and not over the bulk of wax (Fig. 12). The impression surface will be heated quickly to about 1 mm. in depth. The bulk of wax will be little above mouth temperature. One syringe-full of water will be sufficient.

14. The band with wax is immediately placed over the tooth, considerable constant force being used. It will be noted that wax is oozing from

under the band at buccal, lingual, or gingival (Fig. 13). With a little experience the operator can determine how much water to use by the amount of wax that flows from under the band when placed on the tooth. If wax flows out too easily, too much water was used. If the wax does not ooze from under the band, remove and use hot water again.

15. While holding constant pressure, use a plastic instrument on mesial and distal (Fig. 13). This time it must be used carefully. Pass the instrument through the interproximal space, just occlusally to the gingival cavo-surface (Fig. 14). Press axially, but not enough to force all wax from between the tooth and band. In cases of minimum extension the point of plastic should be directed against the band below the contact. Fig. 15 demonstrates how the band approaches the gingival margin the first time. Fig. 16 demonstrates the affect of the plastic in giving added pressure at the gingival. The thin amount of wax between the band and gingival cavo-surface will be noted. The use of the plastic instrument must be studied carefully as the success of the impression depends largely on its use, especially for ease in removing the impression, and for gingival detail.

16. Cool with air to mouth temperature; remove by lifting straight off; do not rotate bucco-lingually in removing. If the technique has been followed correctly and no undercuts exist, it will remove easily after adhesion of wax is broken. The wax at the gingival margin should be glazed and the outer line of the gingival cavo-surface should show clearly. If not perfect, use hot water again.

There are a few points in taking the impression for two-surface cavities which differ from the three-surface technique as follows:

17. Do not let the band go through contact point (Fig. 16, right).

18. Place the band the first time with wax over cusps opposite the cavity (Fig. 17). Force to place. This maintains pressure axially in the cavity. Use plastic (Fig. 18). Cool and remove.

19. Trim, use water, and proceed as shown in Figs. 10, 11, and 12.

20. Oozing of wax will be noted at the gingival (Fig. 19). Use plastic; cool.

21. For cases of small two-surface cavities in which a minimum of occlusal surface is lost, use sharp,

pointed instrument and punch a hole through the band at the marginal ridge of the adjacent tooth and over the contact point (Fig. 20). Remove.

22. The occlusal registration is taken in all cases except as mentioned in 21.

23. Take occlusal registration. If one or more cusps are to be restored a band short enough to allow closing of teeth is used. Warm a surplus of wax and force into the cavity; then have the patient close in centric only; no copy of gingival is necessary (Fig. 21).

24. Trim overhanging surplus on buccal and lingual (Fig. 22). Dry occlusal with air.

25. With a low pressure of hot air (about 2 pounds), play over the surface until the glaze appears. Have the patient move laterally with slight pressure. Dry; use hot air again; repeat four or five times. Do not overheat. Do not let the patient move many times without reheating as the wax will become flaky.

26. All lateral markings and contact will be produced (Fig. 23). If the band was used, add wax the thickness of the band for contact when carving. Fig. 24 shows the completed impression and occlusal registration.

*Laboratory Technique*—1. The impression is wrapped around twice with Scotch cellulose tape, three-fourths inch wide. Seal well at closed end (Fig. 25).

2. Mix model stone of the best quality in proportions about 35-100. Use a brush; carefully fill the impression to the top of the cellulose.

3. Place in one of the auxiliary cups of the condenser, a small cup for bicuspids, a large cup for molars. Place in the cup on the centrifugal condenser; run for about half a minute (Fig. 26). This removes most of the surplus water and gives a smooth dense die (Figs. 27 and 28).

4. In small two-surface cavities where the hole was punched to mark the marginal ridge, wrap as in step 1. Make a mix of casting investment; fill and condense. When set, carve on the die. The bottom of the hole will become the top of the marginal ridge. Invest the die and wax to the cast (Fig. 29).

5. After normal setting-time of stone, strip off the cellulose tape. Place the die in water about 120° F. for a few minutes, so that the band and wax can be easily removed. The band may be cut off first.

Fig. 9—Plastic instrument used through interproximal space.

Fig. 10—Left, band as removed. Right, as trimmed.

Fig. 11—Heat band on proximal to assure wax sticking to band. Note wax just melted at gingival.

Fig. 12—Position band is held in when water is flowed into it.

Fig. 13—Band placed on tooth after hot water is used. Wax oozing from under band; use of plastic instrument.

Fig. 14—Position in which plastic instrument is placed on band.

Fig. 15—Left, position band should be in when forced on the first time. Band extends to contact and just below gingival. Right, band forced too far.

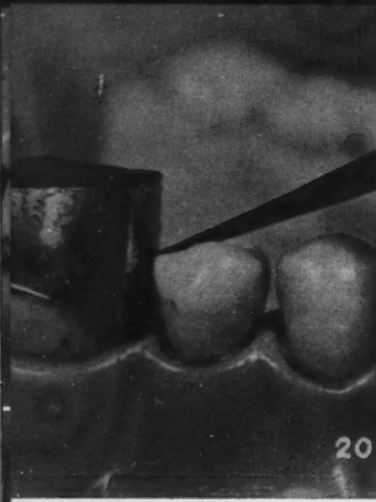
Fig. 16—Second time band, is placed. Band extends just below gingival. Depression where plastic instrument was used. Band to contact on two surfaces, wax between band and cavo-surface at gingival.

Fig. 17—Starting band on two-surface impression.

Fig. 18—Band to place, plastic used.

Fig. 19—Band to place after hot water was used. Note contour of band, position of plastic, wax oozing from under band.





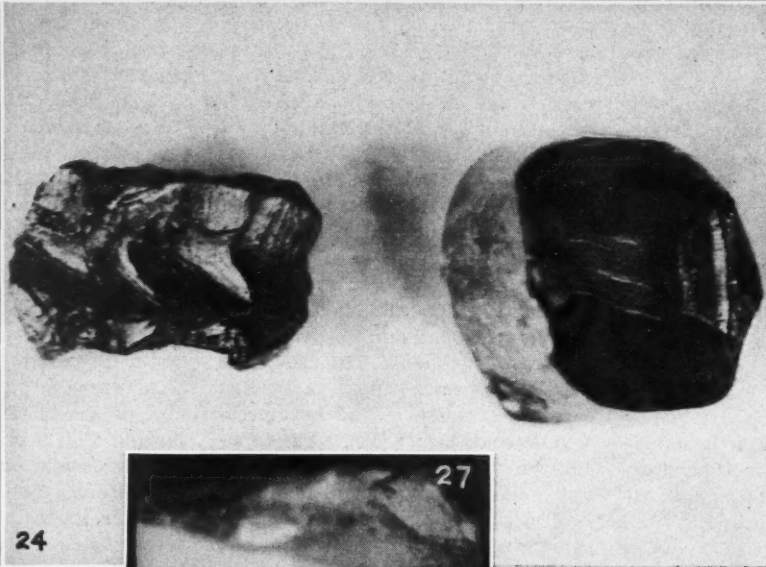
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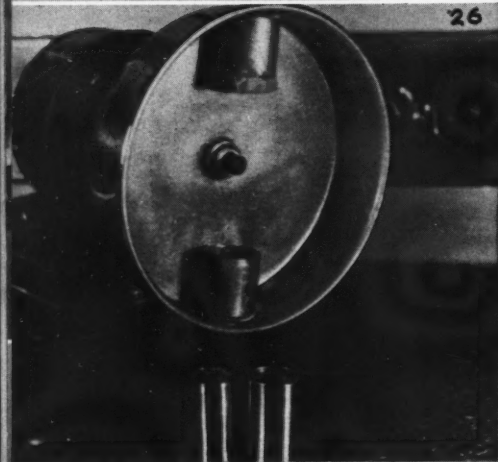
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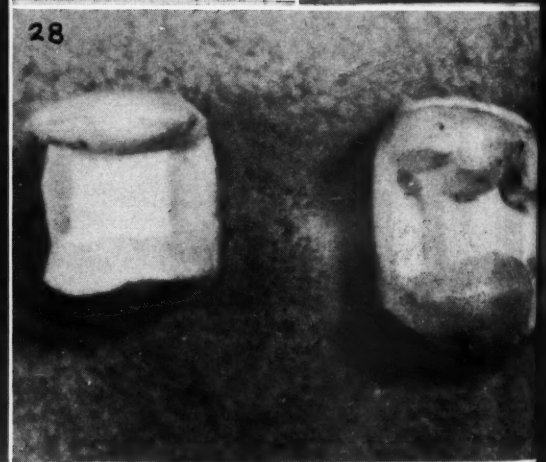
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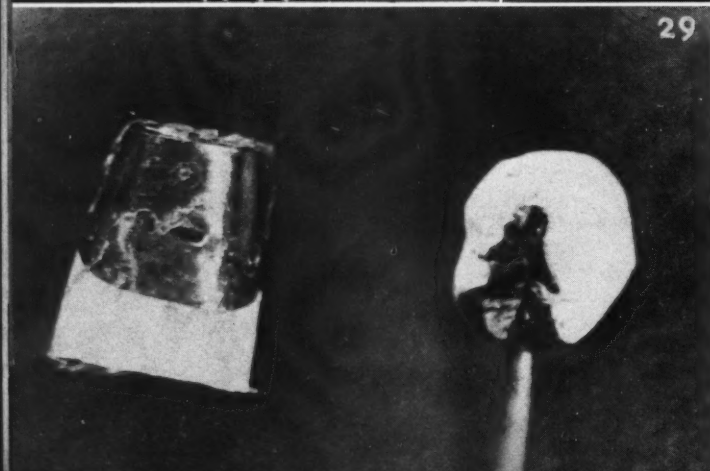
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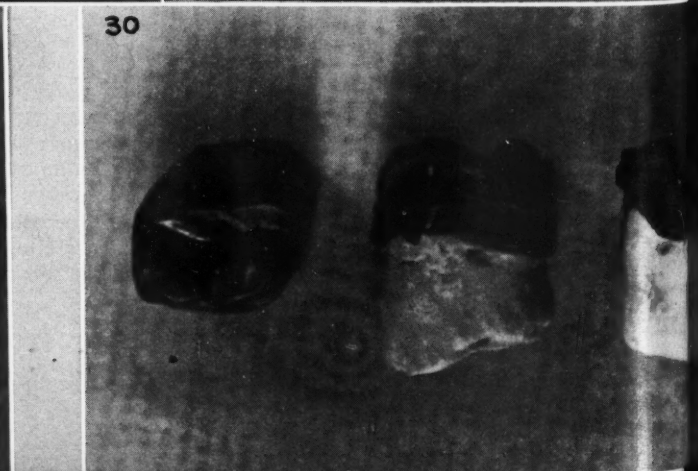
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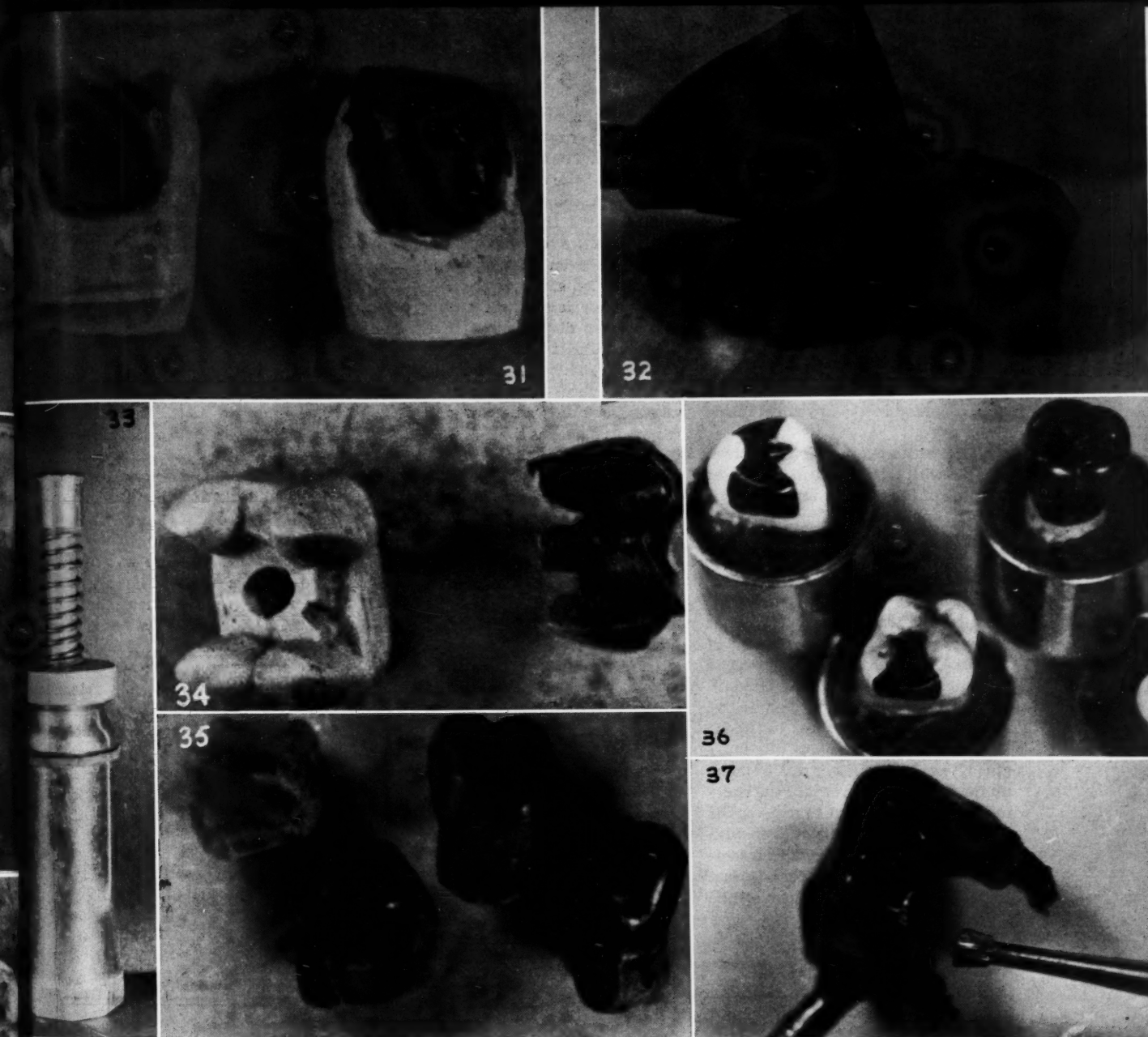


Fig. 20—Punch hole for marginal ridge.

Fig. 21—Take bite; close in centric.

Fig. 22—Part of surplus wax trimmed.

Fig. 23—Lateral markings in bite complete.

Fig. 24—Completed impression and occlusal registration. Note glaze at gingival and sharp outline of gingival-cavo-surface.

Fig. 25—Impression wrapped with cellulose tape.

Fig. 26—Centrifuge condenser.

Fig. 27—Stone condensed in impression.

Fig. 28—Completed dies ready for bite to be placed on them.

Fig. 29—Left, two-surface impression with hole for marginal; right, carved, ready to invest.

Fig. 30—Left, occlusal marking center and right, occlusal registrations for crown and M-O-D. Note gingival is not copied.

Fig. 31—Right, bite on die; left, pattern partly carved.

Fig. 32—Die with pattern ready to swage.

Fig. 33—Water swager.

Fig. 34—Swaging test.

Fig. 35—Patterns swaged and finished carving on dies.

Fig. 36—Patterns removed from dies, placed on teeth showing fit.

Fig. 37—Use of wax cutting bur.

6. Trim the die below the gingival. Place the die in 50 per cent solution of glycerin and water for about ten minutes; then it will be ready for use. Leave in solution when not being used. Bites are placed on the die to be corrected.

7. Correct the bite. Rinse the die in warm water; absorb free moisture.

8. Fig. 31 (right) shows the wax just placed on the die. Gingival is filled in (left); melt well into bulk of wax and cover the gingival. Margins are roughly finished, leaving overhang of wax on all margins.

If the impression technique was followed the operator will have a die that is accurate. The next step is to adapt the occlusal registration to the

die to make the completed pattern. In taking the occlusal registration the wax will be distorted to some extent as is always the case if the patient is allowed to bite into the impression wax and make any lateral movements. This correction is done accurately by use of a water swager (Fig. 33). This instrument is a cylinder filled with water. When the top part is screwed on tightly the plunger is hit with a hammer. The plunger creates water displacement and is not a piston action. This gives a great deal of pressure on anything inside the swager.

9. Wrap the partly-carved pattern and die with a rubber dam and tie at the base of the die. The tension of the rubber should be just enough to hold the wax in the die (Fig. 32).

10. Place in swager. It is not possible to swage wax at room temperature with accuracy; therefore, the wax is warmed to a temperature at which it will move under the great amount of pressure created in the swager. The amount of distortion in the bite will not be great, but the space along the margins and walls must be filled; therefore, the overhang on the margins is left for surplus of wax to make up for this deficiency. Place the thermometer in the swager to register the heat near the die. Fill swager with warm water until it maintains a temperature of 110-112° F. for at least three minutes. The wax then will be

evenly tempered and at a temperature that will permit it to be moved under pressure and be adapted accurately to all parts of the cavity. The swager is closed. Hit the piston several blows with about a three-pound hammer. By the water displacement of the piston, an even amount of pressure is exerted on all parts of the wax. If any space exists, as a result of contraction or distortion, between the wax and die, it will be well adapted to the die. This will not destroy any of the occlusal markings nor will it cause the bite to be low after the casting is made, as the bite will fit the die accurately on the pulpal wall before swaging.

A great deal of care is necessary in following the swaging technique as the weight of the hammer will make a difference in the result. Do not use a lighter weight hammer, as it is desired to condense the wax at as low a temperature as possible. If a lighter hammer is used, a higher temperature of water in the swager would have to be used. This is not desirable as the object throughout this method is to arrive at a finished pattern with as little temperature variation as possible, thus having the minimum of contraction of the wax. Fig. 34 demonstrates the swaging act. The hole and notch were filled without flattening the sharp carvings on the occlusal surface.

This technique has been developed

with a medium-flowing wax, such as Maves' number 2 stiff stick, or Taggart's. The wax should have toughness and not become brittle quickly. The hard waxes or those flowing at a high temperature are not satisfactory for this technique.

If the wax used is other than those mentioned, the swaging temperature should be tested by swaging a test case at a few degrees above 110° F. and the results noted. If cusps and marginal ridge flatten, lower the temperature of the water until occlusal markings are not disturbed.

11. The die is removed from the swager and the carving finished (Fig. 35). The most important point to be accomplished is to produce a die over which to carve a pattern that will be an accurate fit on the tooth for which the impression was taken. If the pattern fits the tooth, this would be the proof of the technique (Fig. 36). All sizes of patterns are made with this technique. From here on, the casting technique will be the same as is used for a direct pattern except that care must be taken not to over-expand by casting in a hot mold. Large, thick patterns may have some of the bulk removed by the use of a wax cutting bur (Fig. 37). No distortion need occur from the use of this bur.

*Medical and Dental Building.*

## Announcement of Books Received

**TOOTH FORM: Drawing and Carving, A Manual (Illustrated)**, By Russell C. Wheeler, D.D.S., Philadelphia and London, W. B. Saunders Company, 1939.

**PUBLIC HEALTH DENTISTRY AND HEALTH SECURITY**, By Alfred J. Asgis, Sc.B., M.A., D.D.S., Ph.D., New York, Clinical Press, 1939.

**THE STORY OF DENTISTRY**, By M. D. K. Bremner, D.D.S., Brooklyn, Dental Items of Interest Publishing Co., Inc.; Great Britain, Henry Kimpton's Medical House; 1939.

**DISEASES OF THE MOUTH (Illustrated)**, Fifth Edition, By Sterling V. Mean, D.D.S., B.S., M.S., St. Louis, The C. V. Mosby Company, 1940.

**THE DENTIST'S OWN PROBLEM**, By Arthur A. Campbell, D.D.S., Portland, Oregon, B-C Publishing Company, 1939.

**THE EFFICIENT DENTAL ASSISTANT**, By Ethel Covington, St. Louis, The C. V. Mosby Company, 1940.

**THE YEAR BOOK OF DENTISTRY**, Edited by Charles G. Darlington, M. D., George W. Wilson, D.D.S., Howard C. Miller, D.D.S., Walter H. Wright, D.D.S., Ph.D., George R. Moore, D.D.S., M.S. Chicago, The Year Book Publishers, Inc, 1939.



## The Editor's Page

AN ENTERPRISING study has recently been reported<sup>1</sup> by the First District Dental Society of New York. In an attempt to determine what methods and medicaments proved of maximum value in various dental procedures a committee of the Society conducted a questionnaire study among its members. The questionnaire "was composed of eleven questions, each one representing therapeutic methods used in one phase of dentistry. In seven questions an opinion was requested on the effectiveness of the chosen drug or method." Dentists in general will be particularly interested in the response to seven "I Use" statements. These include "I Use" for: (1) toothache, (2) avoiding pain during cavity preparation; (3) preventing pain of the hypodermic needle; (4) dry socket; (5) office treatment of Vincent's infection; (6) cavity sterilization; (7) lining cavities. Each one of these seven procedures is a common one in clinical practice. Briefly summarized the responses were as follows:

1. *To Relieve Toothache:* The most popular remedy (46 per cent) was eugenol and zinc oxide paste. Creosote was the least efficient (18 per cent). Proprietary preparations were the most efficient (87 per cent).

2. *To Avoid Pain During Cavity Preparation:* New burs were the most popular (28 per cent). Hartman's solution was considered the least efficient (62 per cent); procaine hydrochloride anesthesia, the most efficient (92 per cent).

3. *To Prevent Pain of the Hypodermic Needle:* Sharp needles were the most popular (48 per cent). The least effective method was tincture of aconite and iodine (69 per cent); the most effective, official drugs and prescriptions (86 per cent).

4. *For Dry Socket:* Benzocaine ointment was the most frequently used therapeutic agent for dry socket (29 per cent). The least effective agents (67 per cent) were reported to be eugenol and zinc oxide pack and phenol; the most effective (88 per cent), official drugs and prescriptions.

Although the drug sulfanilamide was used in only 9 per cent of cases for the treatment of dry socket, the percentage of effectiveness of the preparation was extremely high: 84 per cent. The use of sulfanilamide in the treatment of dry socket is more or less of an empiric procedure. It is not generally thought that the local application of this drug on any body tissue or in any body cavity is effective. It gains its effectiveness presumably by internal use. The clinical test, of course, of any preparation is what counts, and if the drug gives good results, even contrary to theoretical conceptions, it is a worthy adjunct in therapy. Sulfanilamide for the treatment of dry sockets and even for the treatment of pus infections in the mouth

seems to have a place and merits empirical test.

5. *For Office Treatment of Vincent's Infection:* The most popular agent was sodium perborate solution (23 per cent frequency of use). The least effective agent was potassium permanganate (66 per cent); the most effective were acriviolet, neoarsphenamine, and arsphenamine, each showing a percentage of effectiveness of 80.

Although it is generally known that the arsphenamines are effective in the office treatment of Vincent's infection, arsphenamine and neoarsphenamine were used only in the frequency of 5 per cent and 9 per cent respectively, but the effectiveness of the therapy was listed as 80 per cent.

6. *For Cavity Sterilization Prior to Filling:* Phenol was the agent most frequently used (25 per cent).

7. *For Lining Cavities Prior to Filling:* Cement had the highest frequency of use (47 per cent).

The dentists were also asked what they prescribe for postoperative sedation. The sedative most frequently prescribed (55 per cent) was aspirin. Nembutal was found to be the most effective agent (89 per cent); pyramidon, the least effective (72.5 per cent).

It was interesting to note what methods of dispensing these drugs dentists used: Seventy-two dentists supplied the drug to the patient. Some of these men presumably told the patient what he was receiving. Fifty-five dentists told the patient to buy the drug by name. Fifty-two dentists wrote a prescription for the drug. The old method of office dispensing is a hang-over from earlier practices in medicine and one still followed frequently in rural communities. Telling a patient to buy a drug by name is not an elevating professional practice. To prevent mistakes, misunderstandings, and improper dosages, dentists should more frequently write prescriptions for the drugs they use in postoperative sedation and for other conditions.

One observation that is suggested by this study is that the methods and drugs used in the treatment of dental disease are many in kind and vary in effectiveness. The skill of different men likewise varies. It will always be extremely difficult, except in conditions for which specific drugs are known, for any one person or agency to say that a given treatment is the only treatment or the best treatment. The behavior of a product in the laboratory and *in vitro* is often not the same as the clinical application and *in vivo*. In the presence of evidence of clinical worth, we must be open-minded and ready to accept at least tentatively the merit of any reasonable treatment.

<sup>1</sup>Materials, Processes and Formulas Committee of the First District Dental Society: Drugs, Formulae and Therapeutic Methods Used and Recommended by Dentists, New York J. D. 10:9 (January) 1940.

# PELLAGRA, BERIBERI AND RIBOFLAVIN DEFICIENCY

DEFICIENCY STATES	COMPLAINTS	PRODROMAL SYMPTOMS	SYMPTOMS OF TYPICAL DISEASE	CAUSATION	INCIDENCE
Early or Subclinical Deficiencies of Water-Soluble Vitamins	Numerous and vague Not limited to any particular part of body	Poor appetite Loss of weight and strength Indigestion and dyspepsia "Heartburn" Constipation or diarrhea and abdominal cramps Skin manifestations: vague burning, itching and crawling sensations Nervous manifestations: irritability, apprehension, depression and crying spells, insomnia, flights of ideas and distractibility, mental confusion and forgetfulness		Deficient diet due to: financial inability to purchase proper food or personal likes or dislikes or faulty assimilation or increased requirement	Numerically more important than patients with classic pellagra. Constitute a major economic burden—unable to work, others must supply their needs.
Pellagra (Nicotinic Acid Deficiency)		Anorexia Burning tongue Abdominal pain	Intense glossitis Stomatitis Gingivitis Pharyngitis Gastritis Enteritis Mucous membranes of gastro-intestinal tract affected Lips are reddened and cracked Tongue becomes fiery red and ulcerated (pharynx may also) <i>Vincent's infection is often superimposed. Wherever the mucous membranes are affected by pellagra, Vincent's organisms grow in thousands.</i>	Failure to consume a diet quantitatively or qualitatively adequate	Attacks "all strata of society, all races, and both sexes."
Beriberi or Thiamin Deficiency (Vitamin B <sub>1</sub> Deficiency)	Vague Referable to many systems of the body	Loss of appetite, weight, and strength Muscular cramps Diarrhea Palpitation and shortness of breath Burning, numbness, and tingling of extremities are more specific and forewarn of a peripheral neuritis	Beriberi or thiamin deficiency manifests itself as polyneuritis There is no adequate clinical test for thiamin deficiency other than therapeutic Frequently associated with pellagra	Deficiency may be due to: indigence loss of appetite secondary to other debilitating diseases failure of assimilation increased requirement due to: thyrotoxicosis lactation or rapid growth	
Deficiency that Responds to Riboflavin (Vitamin B <sub>2</sub> Deficiency)		Lesion in experimental subjects: cracking at corners of the mouth; erosion of mucous membranes. Also: roughening of skin around mouth and across tip of nose; pores of affected area filled with sebaceous material. A lesion of eyes also responds to riboflavin therapy but it is too early to interpret; a similar lesion responds to large doses of carotene.	Characteristics are not yet "completely differentiated from the signs and symptoms of related deficiencies."	Chronic dietary deficiency for one or several reasons as previously suggested.	Occurs especially in undernourished women toward the end of pregnancy.  Subclinical cases more numerous than typical as in other deficiency states.

\*Spies, Tom D.; Vilter, Richard W., and Ashe, William F.: Pellagra, Beriberi and Riboflavin Deficiency in Human Beings, *The Journal of the American Medical Association*, 113:931 (September 2) 1939.] Prepared by The DENTAL DIGEST staff to acquaint its dental readers with nutritional disorders which they may have the opportunity to detect, and thus aid in prevention by referring patients early to competent physicians. In no sense is THE DENTAL DIGEST suggesting that dentists attempt to treat these complex disorders.

# IN HUMAN BEINGS: An Adaptation from the Medical Literature\*

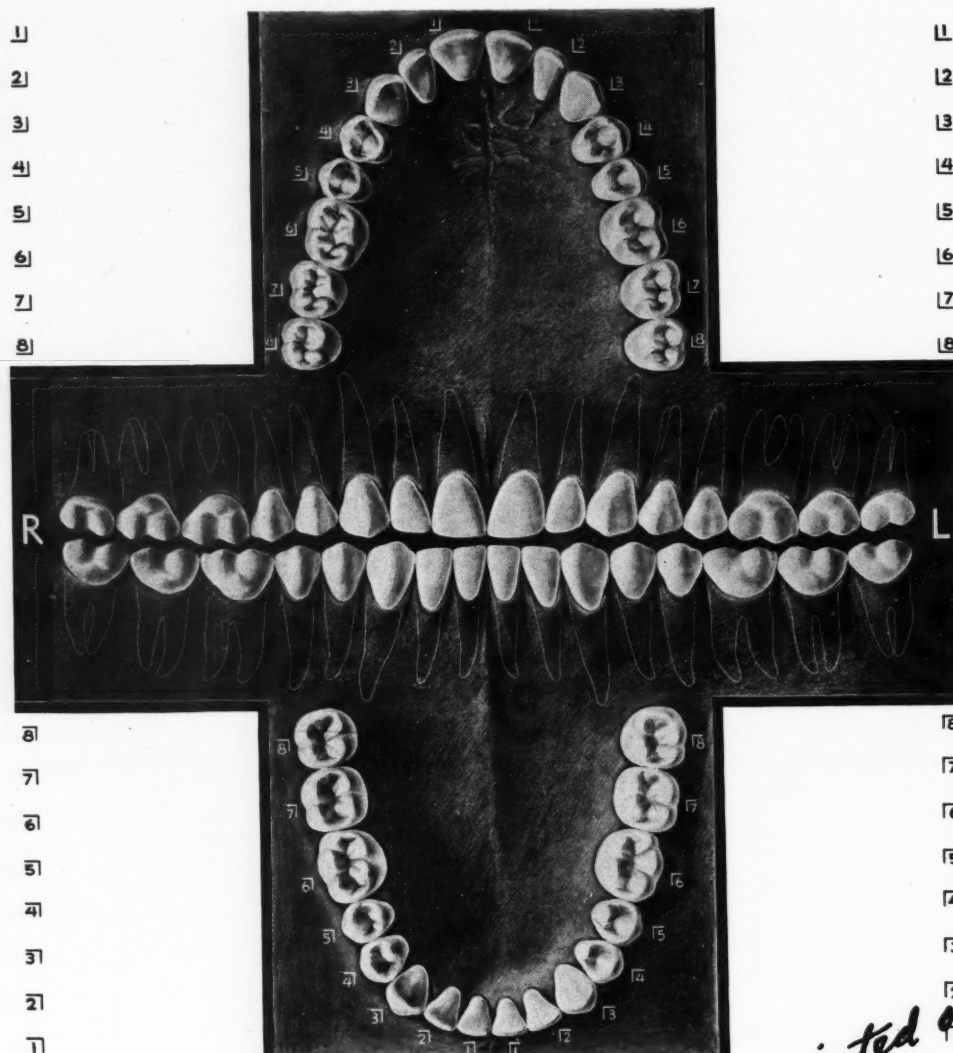
REQUIREMENTS FOR DIAGNOSIS	PROGRESSION AND PROGNOSIS IF UNTREATED	THERAPY: PROBLEM AND GENERAL PRINCIPLES	SPECIFIC THERAPY: DRUGS AND DIETS	COMMENTS
<p>Prodromal symptoms coupled with a history of deficient diet over a prolonged period.</p> <p>"The diagnosis of one clinical deficiency syndrome necessitates a thorough search for others."</p>	<p>"Untreated, these sub-clinical symptoms may go on for months or years, waxing or waning with the changing seasons, or they may develop rapidly into one or more classic syndromes if the cause of the deficiency is not corrected before infection or some other precipitating factor causes the recognizable manifestations of the disease to appear."</p>	<p>Problem: To administer "adequate amounts of the deficient substance or substances in a way in which it or they can be utilized."</p> <p>Principles:</p> <ol style="list-style-type: none"> <li>1. "There should be elimination of any conditions causing excess requirement of specific substances."</li> <li>2. "There should be administration of the lacking substance or substances in amounts adequate to correct the deficiency."</li> <li>3. "There should be symptomatic treatment and treatment for co-existing diseases."</li> </ol> <p><i>"Each patient should be treated individually, and the indications for treatment depend on the clinical information available to the physician."</i></p> <p>"The essence of treatment consists in administration of adequate amounts of foods rich in the missing materials, supplemented if possible by the administration of large amounts of specific therapeutic agents."</p> <p>Complete rest in bed and adequate nursing care in cases of severe pellagra or beriberi with cardiovascular manifestations are required in addition to regular medication and the prescribed diet.</p>	<p>Nicotinic acid, vitamin B<sub>1</sub> and riboflavin should be supplemented to usual diet.</p> <p>Before disease becomes too advanced, administration of nicotinic acid in adequate doses will yield striking improvement within 24 to 48 hours.</p> <p>Nicotinic acid, nicotinic acid amide, and sodium nicotinate are specific for the treatment of pellagra.</p> <p>Oral administration is preferred unless absorption is impaired, in capsule or tablet form; otherwise, parenterally in physiologic solution of sodium chloride.</p> <p>500 mg. of nicotinic acid daily in 50 mg. doses: safe and effective for average pellagrin.</p> <p>Dosage varies; there is difference of opinion. Physician must determine dosage and supplementary treatment for each individual case.</p> <p>Infants: Intramuscularly or intravenously 5 mg. of thiamin hydrochloride in sterile physiologic solution of sodium chloride twice a day. 10 mg. by mouth each day.</p> <p>Adult: From 20 to 50 mg. daily for severe cases.</p> <p>From 5 to 10 mg. adequate for mild cases.</p> <p>Oral administration in adequate doses effective for average case.</p> <p>Parenteral injections indicated when vitamin B<sub>1</sub> deficiency is associated with cardiac failure, peripheral neuritis or severe alimentary disturbances. Vitamin B<sub>1</sub> administered as a supplement to the usual diet tends to delay, retard or prevent symptoms of beriberi. Vitamin B<sub>1</sub> is specific only for the clinical syndrome beriberi.</p> <p>Tentative conclusions:</p> <p>5 mg. daily orally will heal lesions at corners of the lips within 4 to 6 days.</p> <p>Administration of riboflavin increases efficiency of nicotinic acid in treatment of pellagrins.</p> <p>From 50 to 75 Gm. dry brewers' yeast and a well balanced diet for 2 days will show spectacular response.</p> <p>Riboflavin is the only supplement to the diet that is known to prevent, retard, or delay symptoms characteristic of this deficiency but does not prevent appearance of other deficiency lesions. It is specific only for this clinical syndrome.</p> <p>GENERAL: Diet depends on age, race, habits, tastes, and financial status of patient. Well-rounded routine diet: 4500 calories rich in meat, liver, eggs, milk.</p> <p>From 75 to 100 Gm. of dry brewers' yeast daily is a valuable supplement when the prescribed diet cannot be followed. Supplements of 100 Gm. of rice polishings or 150 Gm. of wheat germ daily is likewise valuable.</p>	<p>Patients described as neurasthenic.</p> <p>"... nutritional deficiencies exist as complexities and not as single entities.</p> <p>"A diet deficient in one chemical substance is almost certain to be deficient in others."</p> <p>Thus, a person with one deficiency syndrome is likely to have associated deficiency diseases.</p> <p>"Classic pellagra is a syndrome affecting the skin, the alimentary tract and the central nervous system."</p> <p>"Nicotinic acid will prevent the development of the clinical disease in pellagrins but will not prevent or relieve associated symptoms of beriberi, riboflavin deficiency, scurvy, vitamin A deficiency or anemia if patients continue to ingest their usual inadequate diets."</p>
<p>Diagnosis is clinical; is made by observing characteristic glossitis, dermatitis, or both; by the presence of diarrhea, abdominal pain.</p> <p>Skin manifestations: roughened, erythematous, desquamating, cracked, sharply demarcated from healthy skin.</p> <p>Lesions: bilaterally symmetric; appear more frequently on dorsum of the hand, the elbows, knees, ankles, neck and axilla, perineal region.</p>	<p>Central nervous system is affected.</p> <p>In the late stage behavior will be of the paranoid type, accompanied by visual hallucinations, delusions of persecution, depression, reclusiveness, dangerous maniacal actions, delirium, tremor or rigidity of extremities, stupor and finally, circulatory collapse.</p> <p>Lesions are progressive and constantly changing, so that appearance varies from time to time. Older lesions are more highly pigmented. Lesions appear first in alimentary tract and are similar to those found in the mouth.</p>			
<p>Evidence of peripheral neuritis with or without edema.</p> <p>Cardiovascular or gastrointestinal abnormalities</p> <p>History of a diet deficient in vitamin B<sub>1</sub> over a prolonged period.</p> <p>Success in treatment depends on accuracy in diagnosis.</p>				
<p>Diagnosis has only therapeutic test. The deficiency has so far been found to respond only to the administration of riboflavin.</p>	<p>Recurrence following treatment in from 8 to 20 days if diet is not therapeutically adequate.</p>			
				<p>Pellagra, beriberi and riboflavin deficiency are clear-cut clinical syndromes which frequently coexist and are often associated with other nutritional disorders such as lack of protein, of vitamin A, of vitamin C, or iron, phosphorus and calcium.</p>



# THE RYAN EXAMINATION AND TREATMENT RECORD

Designed by Edward J. Ryan, D.D.S.  
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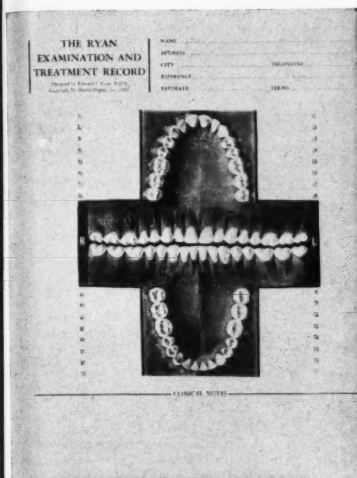


CLINICAL NOTES

*Specimen of chart which is printed on  
white, durable paper of the right texture  
for crayons or colored pencils*

# Suggestions for the use of

## The Ryan Examination and Treatment Record



### TYPES OF PENCILS

Yellow	Mongol No. 867
Gray	Mongol No. 819
Red	Mongol No. 866
Blue	Mongol No. 865
Yellow	Castell No. 40
Gray	Castell No. 57

Mongol pencils are made by Eberhard Faber; Castell by A. W. Faber.

### SUGGESTED SYMBOLS

Each dentist may develop his own system of symbols but the following specific markings have been found simple and adequate:

**Soft Lead Pencil**—(a) Porcelain fillings are indicated by a pencil outline.

(b) Porcelain jacket crowns and bridges are shown by cross-hatching with lead pencil across the corresponding tooth or teeth on the chart.

(c) Missing teeth are blocked out with a soft lead pencil.

(d) Abrasions are represented with soft lead pencil.

**Blue Pencil**—(a) Cavities are indicated with blue pencil.

(b) Advisable restorations are demonstrated with blue pencil.

**Red Pencil**—(a) A red line is used to indicate the presence of a root canal filling.

(b) A red outline shows the presence and position of an impacted tooth.

(c) Red pencil is used to represent pulp involvement.

(d) A red "X" is made across a tooth to indicate that its extraction has been advised.

(e) Pyorrhea pockets are represented in red along the crest of the alveolar ridge (and a notation is made at the bottom of the chart if extensive gingivitis is present).

1. The Ryan Examination and Treatment Record may be had in pads of fifty charts each. These pads fit conveniently in a standard 9½ by 11½ inch loose-leaf notebook which may be purchased at a five-and-ten cent or variety store.

2. Alphabetical dividers may be made by using a ten cent package of plain white paper of the same size as the charts with holes punched at the same distances, and a fifteen cent box of alphabetical index tabs. The holes are reinforced.

3. It is a good plan to keep a blank sheet of paper between the charts to prevent possible smearing of crayon or pencil markings; but this is not essential.

4. A fresh pad of charts may be kept ready for use in back of the notebook of active records.

5. The various types of restorations and their location in a particular mouth are shown with the use of polychrome pencils—gray, for amalgam; deep yellow, for gold. White pencil does not show up very well; consequently, porcelain may be indicated with soft lead pencil outlines or cross-hatching.

6. Spaces provided beside the quadrants with numbers corresponding to the teeth permit special notations concerning each tooth. As treatment progresses the blue markings indicating needed dentistry are erased, and the nature, location, and date of placement of each new restoration are recorded. Additional clinical notations are made if necessary in the space provided for that purpose below the chart itself.

7. It is essential to be consistent in any system of symbols or markings developed. To insure consistency, it is well to have a key page in the front of the notebook.

8. The exact record of conditions found in the average patient's mouth at the original examination can be completed in fifteen or twenty minutes, and the time it takes to keep a chart up to date is negligible.

9. When a chart is completed the necessary data (name, address, telephone, reference, estimate, and terms) are typewritten in the spaces provided at the top of the record. The date of the original examination is also recorded in order that the treatment dates (as shown in the quadrants at the sides of the chart) will be recognized as subsequent to the date of the original examination.

10. Provision is made on the back of the chart for bookkeeping records. This is merely for the convenience of dentists who wish to keep all records together, but may be ignored by dentists who have a satisfactory book-keeping system which they need not and do not wish to discard. The Ryan Examination and Treatment Record may be employed as an additional or supplementary record to any established method of record-keeping dentists may have.

11. Although the Ryan Examination and Treatment Record was designed for the dentist's own convenience in his practice, the charts have been found to have a definite informative value in explaining conditions to patients. The charts are also particularly helpful in reporting dental conditions of patients to cooperating physicians.

THE DENTAL DIGEST, 1005 LIBERTY AVE., PITTSBURGH, PA.

Here is \$1.00. Please send me a pad of 50 Ryan Examination and Treatment Record Charts.

Dr. .... Address .....  
City ..... State .....

(Or please use coupon on page 76)

If you have not ordered your charts, clip the coupon, and mail with a dollar bill.

**Dentists** HAVE OFTEN EXPRESSED the need for an effective sterilizing agent that was odorless and tasteless. As a result of intensive research by the first manufacturers of cystoscopes in America, CYSTAN (green) Sterilizing Tablets are now available to the dental profession.

CYSTAN (green) Sterilizing Tablets provide a convenient, fast and effective means for the sterilization of all\* dental instruments, particularly those which cannot be subjected to heat, such as electrically lighted mouth mirrors, transilluminators, moulded light carriers and so forth.

*Descriptive Literature* on request. Ask your dealer for CYSTAN (green) packed 100 or 500 tablets to the bottle.



**NOTE THESE ADVANTAGES:**

- **Effective:**  
One CYSTAN (green) Sterilizing Tablet dissolved in one pint of water makes a pint of germicidal solution which will destroy Staph. Aureus in 5 minutes.
- **Convenient:**  
CYSTAN is easy to use. Simply crush one tablet in (warm) water. The clear green solution is quite stable, therefore, it is unnecessary to make up solution daily.
- **Odorless:**  
CYSTAN is entirely odorless much appreciated by your fastidious patients.
- **Tasteless:**  
CYSTAN is entirely tasteless and relatively non-toxic. Your instruments may be used directly from your sterilizing tray. No need to risk contamination by wiping off solution as CYSTAN is tasteless and non-irritating to the oral mucosa.

\*Not for use with aluminum instruments.

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"A GREAT HOTEL"

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1 BLOCK FROM PENN. STATION  
B. & O. Motor Coaches stop at our door.

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Under KNOTT Mgt. John J. Woelfle, Mgr.

NOTES ON THE

*Cuff*

**Hold That Bridge!**

In a comparatively intensive program of dental-speech-attending, I cannot recall many occasions on which the speaker had something new and different to say. Some speakers are more bombastic than others; others, more straightforward. Men vary in histrionic skill and in shadings of that indescribable quality of personality. Some speakers are adept at submerging their meaning in a sea of verbiage from which the recovery of the pertinent substance is almost impossible. Others take a simple and obvious fact and lay on a thick coating of superfluity in the mistaken notion that profundities are more impressive than directness. Simple truths, simply stated, carry a conviction that ponderousness never approximates. The power of simple

style is the most effective literary instrument and direct statement is the sturdiest vehicle to carry ideas through mental blackouts of inattention and sluggishness.

As a model of directness and clarity, we might follow the speech of David W. Phillips before the Chicago Dental Society when he announced a new fixed bridge retention technique. Using the G. V. Black fundamentals of good cavity preparation, Phillips suggests a simple marginal locking precision pin to prevent the displacement of cast bridge retainers. The technique is a simple one that requires neither legerdemain nor nomenclature and is one that has wide clinical application. After a fixed or semi-fixed bridge is finished and cemented into position, Phillips uses three specially designed burs to prepare a marginal cavity or marginal cavities in the tooth. These preparations are made about 2 mm. occlusally from the gingival inlay margin with one half in the gold and the other half in the tooth structure. These preparations are made at right angles to the long axis of the tooth. The special burs produce a cavity of exact dimensions with a cavo-surface bevel into which a hard pre-formed



# The WEBER MAJESTIC Model "F" Unit

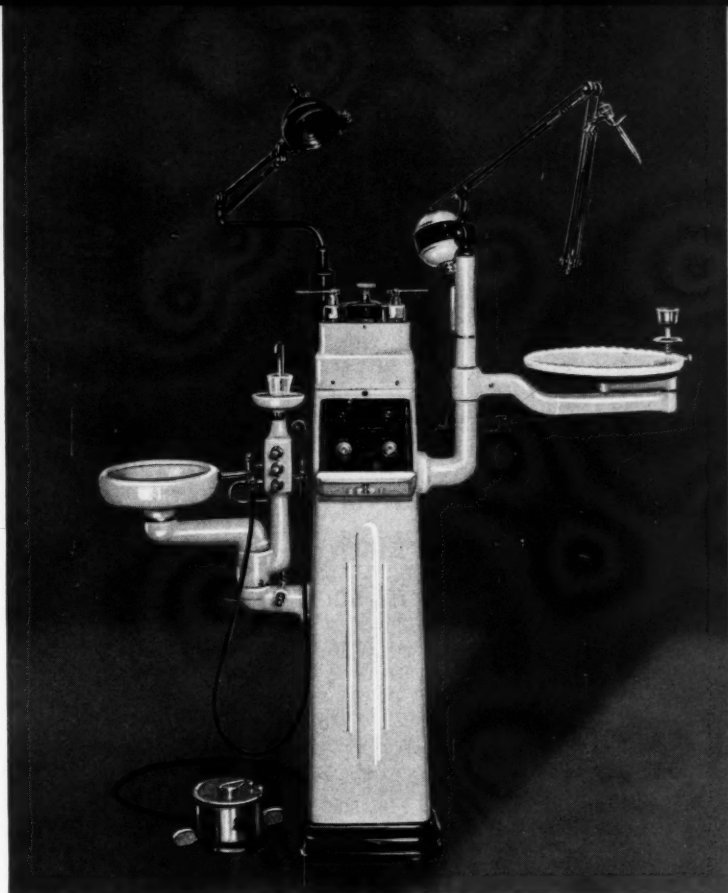
*A scientific modern design, suitable for the most discriminating dental practice.*

The Weber Majestic Unit is down-to-date in every electrical and mechanical principle embodying those necessary and highly technical characteristics demanded by the most thoughtful in our profession. The structure is modernistic, yet not extreme.

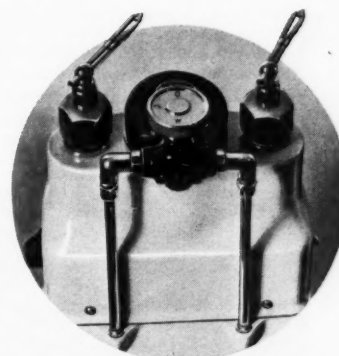
We mention but a few of the outstanding characteristics of this unusual Unit, as proof of its quality and practicability—

- Sturdy Enameled Base
- Aluminum Alloy Jacket
- Brass Cuspidor Arms and Fittings
- Swinging Bowl Cuspidor Arm
- Bowl Securely Mounted in Rubber
- Saliva Ejector Discharge into Waste Line
- Valve Assembly Remains in One Position
- Vacuum Breaker Cuspidor Attachment
- Individual Control of Hot and Cold Air
- Individual Control of Lamps, Cautery and Vitality Tester
- Enclosed Instrument Compartment
- Hidden Metal Gas Line
- Heat Resisting Iverene Glassware
- Tumbler Support out of Region of Contamination
- Collector Rod Engine Mounting
- Thermo Water Heater, Automatic
- Selector Valve for Varying Water Temperatures
- Separate Atomizer Heating Element and Control
- Light Mounting, Single and Double
- Separate Water Control Valve for Pressure and Outside
- Jacket Water Shut-Off

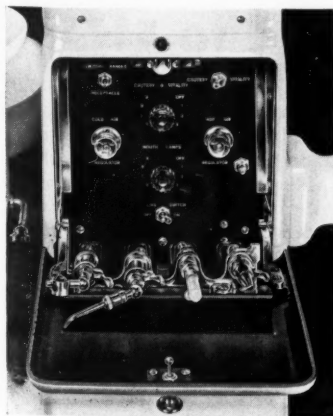
This Unit combines more expressed wishes for the embodiment of useful appliances by worthwhile dentists than any other dental unit. Built with the possibility of some 30 combinations for right and left hand chair positions, right and left hand operators, and from a simplified model to the ultimate. Majestic, indeed, is this beautiful and masterful model.



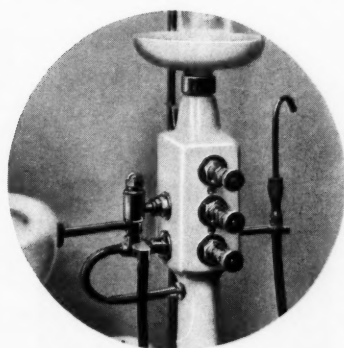
*Finished in standard dental colors, Duco. Liberally chrome plated. Fully guaranteed. Electrical wiring and mechanical principles approved by U.S. Board of Underwriters.*



*Thermo Water Heater showing control valve pipe connections and atomizers.*



*Instrument rack automatically raises to operating position when door is opened. When closed, all instruments and Control Board out of sight.*



*Cuspidor Valve Standard Assembly showing Saliva Ejector discharge into the waste arm, illustrating fixed position of all pressure valves not moved when bowl is moved.*



*Full set of Low-Voltage Instruments supplied with each complete Unit, comprising 2 mirrors, 2 adapters, 2 lamps, 2 lamp shields, 2 cauteries, 1 vitality tester, 1 extra switch handle, all in neat retel leatherette case.*

**WEBER DENTAL MANUFACTURING COMPANY, CRYSTAL PARK, CANTON, OHIO**



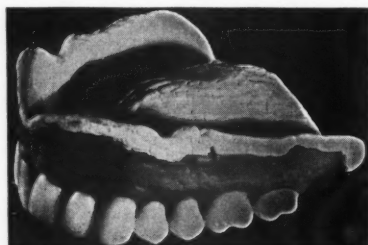
**"Sure, I wear plates, but I hardly know it myself, they fit so well!"**

Here's a case of perfect satisfaction. Such a patient not only brings joy to the dentist's heart but is a big factor in building his practice.

**Correct Adaptation  
The Key to Better Dentures**

What really makes for the final success of any denture, new or rebased? It's largely the degree of accuracy with which the denture has been adapted to the soft mouth tissues. Every little irregularity must be faithfully registered to insure a "perfect fit."

It's so simple to get SUPERIOR ADAPTATION when you use Dr. Kelly's Impression Paste. Easy to apply, it hardens quickly and lasts without distortion through to the final flasking. Correct every impression taken in the course of new denture construction or rebasing with this fine impression material and see what a difference it makes in the results!

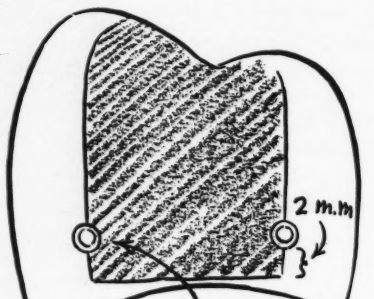


Why not give "Kelly's Paste" a real trial? Order from your dealer, package \$2.50 (only a few cents an impression). There is no risk. Full credit if for any reason you don't like it. This absolute guarantee has stood for more than six years with practically no returns—a record which speaks for itself. Kelly-Burroughs Laboratory, Inc., 143 N. Wabash Ave., Chicago, Ill.

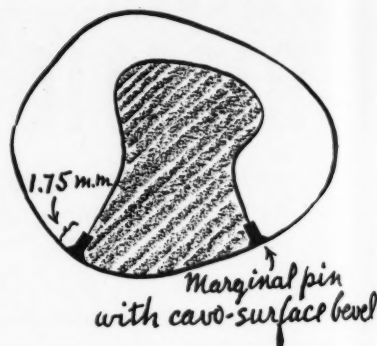
**Dr. KELLY'S  
Impression Paste**

[For full information with suggested techniques, send coupon, page 76.]

gold pin of exact diameter and 1.75 mm. in length is cemented. This marginal fixation pin—half in gold, half in tooth structure—locks the cast retainer into position and prevents displacement.



*hole for  
marginal pin fixation*  
**Proximal View**

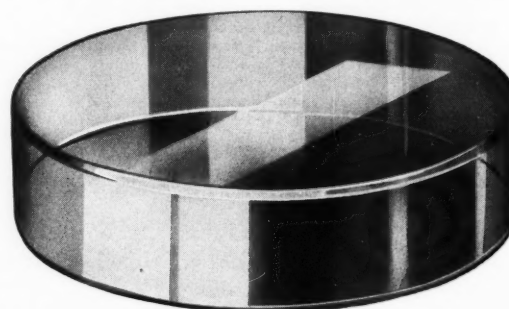


*Marginal pin  
with cavo-surface bevel*  
**Occlusal View**

Phillips also recommends the use of this exact pin as an "inlay in one sitting" for pit cavities in teeth with low cusps or small, smooth surface cavities on the buccal, labial, or lingual surface of any tooth; also, as a locking device for all inlays that have insufficient mechanical retention.

Dave Phillips has contributed generously to the profession before with his control powder casting technique. All of us have known the humiliation of having one of our "fixed" bridges

The preparation for marginal retention is made after the retainers are set and before the pontics are cemented into position (except in the case of deep-saddle type pontics).



**Price Reduced to \$1<sup>75</sup>**

So popular has Buffalo's new No. 7 Round Glass Cement Slab become, that increased production has now made possible a decrease in price. You'll like this round glass cement slab which fits the hand snugly. It is 1" clear glass, 4½" in diameter. Weighs 1/3 less than old type slabs of same thickness. Order one from your dealer today. Ask for Buffalo's No. 7 Round Glass Cement Slab.



returned, wrapped in a piece of paper—usually tissue from the roll. Phillips' lock method of retention will save us many red faces and stuttering explanations.

#### "Dental Miracle Bared" . . .

"Dental Miracle Bared" is the striking title that appeared recently in a San Francisco newspaper. The story under this heading credits the new dean of the University of California College of Dentistry with the announcement; but because we know Doctor Willard Fleming's attainments, we are sure that this story has been distorted along the line. The "miracle" described is the following: "Live teeth are being 'grown' by science from the tooth germs of still-born children." To Doctor Fleming the flamboyant reporter ascribes these words: "The germ is planted usually in the brain tissue of a rodent—where for the first time in the history of dentistry, it may actually be watched while it grows. The possibilities of this new technique are unlimited." Doctor Fleming was doubtless attempting to explain that some new research was being conducted in the laboratory; that experiments were being performed now which at some distant date may have some practical bearing. To biologists and scientists, Doctor Fleming's announcement assuredly had significance; but at this stage of the experiment, the undertaking hardly deserved mention in a newspaper. The ordinary reader, looking for the answer to his own dental problems, can only be further disturbed and confused by reading of the implantation of tooth germs in the brain tissue of laboratory animals. Professional publicity should be as concerned with what to keep out of print as with what to put in print. Many events in the scientific fields are better left unsaid in publications that reach the general reading public.

#### Lord Salisbury Goes to Hatfield . . .

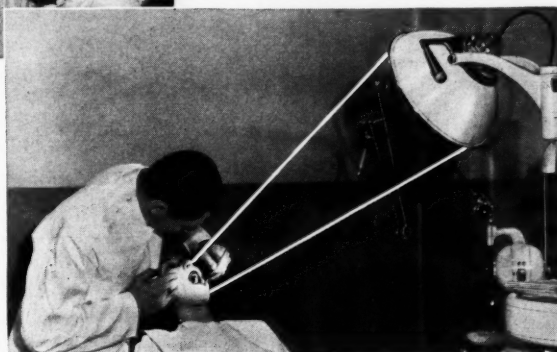
In Basil King's SEVEN TORCHES OF CHARACTER, he describes a tense time during Cleveland's administration when war between the United States and Great Britain over the Venezuela question hung in the air. Cleveland delivered his ultimatum and the people of the country awaited the reply from Great Britain through Lord Salisbury. The cables flashed back:

## you must have light PROJECTED deep INTO THE MOUTH



Castle Light for Surgeons

Just as the surgeon in the hospital must have shadowless, glareless light that penetrates deeply and evenly into cavities . . . so you, the dentist, doing precision work in the mouth, must have a source of illumination as reliable as the Castle Major Light under which the surgeon works.



Castle "T-V" Light for Dentists

Castle Tru-Vision Lights, for the dental office, designed to hospital operating room standards, provide light for real vision *inside* the mouth, for *seeing* the work to be done. 56 separate, wide-angle beams of cool, color-corrected light focused directly into your patient's mouth provide even illumination for posterior or anterior work, eliminate shadows and surface glare, give you all the light you need to do your best work. Acceptance by thousands of dentists *prove* that Castle Lights are right.

WILMOT CASTLE CO., 1109 UNIVERSITY AVE., ROCHESTER, N. Y.

## CASTLE "Tru-Vision" LIGHT

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#### THE DENTAL DIGEST

1005 Liberty Avenue

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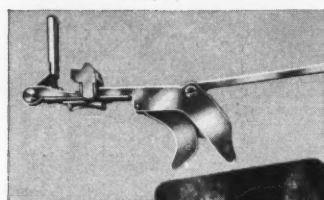
## Mathematical Accuracy of ANGULATION

NOW PERMITS EXACT DUPLICATION OF  
DENTAL RADIOGRAPHS AT . . . WEEKLY  
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### *The* ORTHOLATOR

The only proved dental radiographic angulating device based upon the recently established crown-root angle principle, eliminates distortion . . . no retakes are necessary due to incorrect positioning.

So uniform can radiographs be produced with the aid of an Ortholator, that films made by one or several operators . . . at various times . . . of the same tooth . . . can be superimposed and the image clearly read through them all.



Indispensable to an economic  
radiological service.

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**A BARD-PARKER PRODUCT**

The coupons on pages 76-77 are for  
your convenience in writing  
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"Lord Salisbury has gone down to Hatfield to keep Christmas." The two or three days that intervened between this cable and the formal reply by the British government were enough to allow tempers to cool and thus war was averted. Basil King gives this incident as an example of coolness under pressure. What he says about temper is something that all of us should keep in mind constantly. The annoyances in the dental office are particularly of the kind to induce excursions into invective and high blood pressure. King offers further advice and says it well:

"Tact consists largely in saying nothing when saying anything is dangerous."

"What rises to the lips in a moment of anger can be better said if it must be said after a brief postponement."

"To a rising temper there is no counter-agent like silence."

"For if it takes two to make a quarrel, it takes only one to induce peace."

### Whose Work Is the Most Important? . . .

It is always a little provoking to come in at the tail end of a conversation or to overhear only a slice of conversation. The other day I heard a dentist talking pontifically and from the way he moved his features and from the elegant toss of his head and the emphatic gestures of his right hand, I thought, "Here is someone who must be announcing a discovery of the first importance." I could not hear the whole story but I did hear "my technique," the "paper that they asked me to read," "my researches have proved," and so on. The gaps between these pronounal utterances caused me to wonder, "Has this fellow discovered something important?" With the proper amounts of skepticism and reservation of judgment, I approached this great man to ask, "Doctor, would you mind telling me just what this new discovery of yours might be?"

The great man condescended: "My researches and my paper are concerned with the use of silver nitrate on children's teeth."

"But what have you discovered that is new about the use of silver nitrate?" I asked.

"It prevents tooth decay," said he.

"Yes, to be sure, but we have known that for twenty years. We cannot go on slopping it around in people's mouths willy-nilly, however, because

# Filling a DEFINITE NEED in dental disinfection

a *Waite* idea  
... a concentrated  
solution that YOU  
dilute to prescribed  
strengths for its many  
indications



**H**ERE is the latest development in dental disinfectants . . a germicidal that you economically dilute with water to prescribed strengths and still obtain effective, safe protection for your instruments. It is ZEPHIRAN CONCENTRATED SOLUTION, available in convenient and practical one ounce bottles.

ZEPHIRAN covers a range of applications from the disinfection of instruments, headpieces and rubber articles to the maintenance of instrument and hypodermic equipment asepsis and its use as a safe and effective germicide for the mucous membrane and skin.

ZEPHIRAN is *odorless*, contains no iodine, phenol or heavy metals such as mercury, is rapid

in action and in proper dilutions, non injurious to tissues. Its advantages have been demonstrated for a number of years in general surgery, gynecology and related fields.

ZEPHIRAN is available in 1 ounce bottles from representative dental dealers. Why not ask your dealer's representative for further information or write this office. Better yet, order a supply of the economical "Waite" one ounce bottles today.

**THE ANTIDOLOR  
MFG. COMPANY, INC.**

170 VARICK STREET

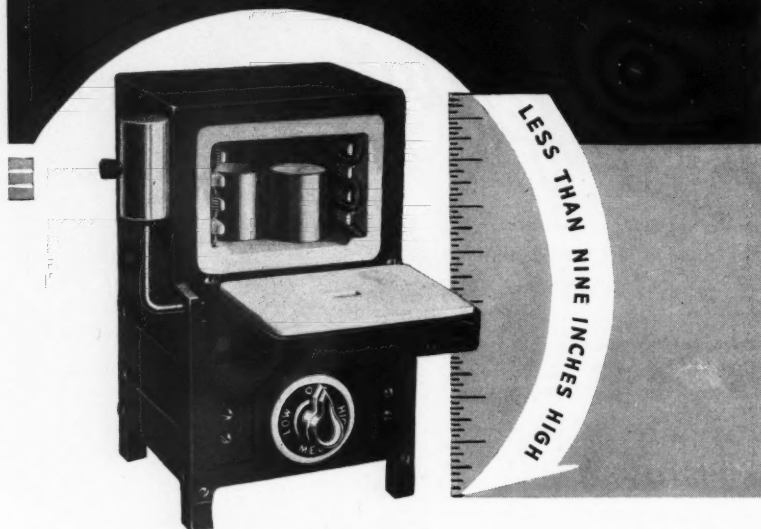
NEW YORK, N. Y.

## ZEPHIRAN

Reg. Trademark Alba Pharmaceutical Co., Inc.

CONCENTRATED SOLUTION 1:250

**"No SATISFACTORY SUBSTITUTE"**



**"T**HERE'S no satisfactory substitute for my Kerr Inlay Furnace".

That's what so many successful Dentists keep telling us. And it must be true. Regardless of materials or technique, good inlay results demand reliable, controllable heat.

Guessing about heat doesn't pay. Beside, make-shift heating devices

chain you to your laboratory. So install your Kerr Inlay Furnace, keep busy on productive operating effort, and get perfect heating results every time.

Designed especially for Dental service ... Three temperature ranges ... Only 8½ x 6 x 7 inches in size but handles three inlay rings as easily as one ... Completely eliminates the wax ... Never overheats ... Costs less than 2c an inlay to operate ... Uses 110 volts, A. C. or D. C. See it at any leading dealer's.

KERR DENTAL MFG., CO.

**KERR**

REG. U.S. PAT. OFF.

**ELECTRIC INLAY FURNACE**

the treatment is sometimes worse than the disease. Is there anything new that you have discovered in its application or its use?"

"No," the great man reluctantly admitted. And with that I walked off to speak to the janitor who appeared to be using a new kind of mop effectively and he wasn't puffed up like a toad either.

Whose work is most important? If it weren't for the miner who digs the coal, the locomotive could not operate which carries the big promoter to the city every morning, and if it weren't for the underpaid elevator operators, the great man could not be elevated to his office forty stories high. As we slide along the countryside in luxurious cars, city slickers are likely to call the men who create food for us bumpkins, hicks, and such opprobrious expletives. A dentist when he makes an inlay does do an important piece of work; so does the butcher when he cuts the steak correctly. The lawyer does a worthwhile social service when he defends a just cause, but the waitress who serves our meals is also a necessary and useful cog in society. A surgeon, who performs a delicate operation well, performs a significant benefit to humanity, but so does the manufacturer of his instruments or the mechanic who services the surgeon's car.

#### Epigram of the Month

Nick Uelmen of Milwaukee provides the epigram of the month: "Many dentures fit because the patient likes the dentist."

#### Index Prohibitorum

Additions to our Index Prohibitorum are suggested by dental speakers who talk about "many, many" and "very, very." "Many" means a great number and "very" means in a high

**LAVORIS**

Flushes out bacterial  
flora of the mouth

For a high standard of mouth hygiene



degree, and to repeat "many" doesn't make the number any greater and to repeat "very" doesn't make the degree any higher, and neither repetition gives the reader or listener a more specific concept of the number or the degree. Exact figures and precise details are necessary to understanding and clarity. If we must say "many" and "very," let's say only one of each.

The three "C's" may also be added to the list of condemned words: contact, check, and conference. *Contact*, used to mean *meet*, *call*, *ask*, *approach*, is no better than any one of the specific words and not as descriptive as any of them. If we wish to say *determine* or *verify*, let's use those words instead of *check*. The word *conference* is a big name for a little meeting of tiny men.

#### Painful Patients . . .

"Painful Patients" is the title of a paper by a neurologist, J. C. Metts, M. D., read before the First District Dental Society of Georgia:

"To really help you must see your patient as a human being, not a problem in mechanics, realizing that most of his complaints are his emotional response to some situation or some problem with which he is unable to cope; that somewhere there is a conflict between his desires and the difficulty of attainment."

"Cultivation of a certain amount of imperturbability in ourselves is highly desirable. That we may regard this person as a sick man seeking relief; that our attitude be kindly and sympathetic; that we avoid at all cost our instinctive desire to search him for qualities we admire and harbor resentment where we find those we distrust; that we remember always to minister to his body, not to sit in judgment on his soul."

"If we are to be of most help to our painful patients we cannot remain mechanistic minded, but must regard them as human beings seeking relief; must approach them in a spirit of interest, sympathy and human kindness, curing where we can, comforting where we may, but relieving pain by any means, always, and by so doing we shall earn their enduring gratitude, a reward more fitting than to dwell on Mount Olympus and listen to the voice of the gods."

These excerpts are worthy of memorizing along with the Hippocratic oath.—E. J. R.

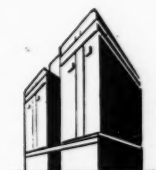
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The hotels that check with every travel standard

See page 44

D.D.2

BRISTOL-MYERS Co.  
19S WEST 50TH ST., NEW YORK CITY

Please send samples of Sal Hepatica.

Dr. ....  
Address .....  
City .....

See page 46

D.D.2

THE S. S. WHITE DENTAL MFG. CO.  
211 S. 12TH ST., PHILADELPHIA, PA.

Please send me your new color guide of  
S. S. White Dental Rubbers.

Dr. ....  
Address .....  
Dealer .....

See page 48

D.D.2

WILLIAM R. WARNER & CO., INC.  
113 WEST 18TH ST., NEW YORK CITY

Please send trial supply of Agarol.

Dr. ....  
Address .....  
City .....

See page 49

D.D.2

GENERAL ELECTRIC X-RAY CORP.  
2012 JACKSON BLVD., CHICAGO, ILL.

Please send me my copy of the new  
CDX catalog which describes and illus-  
trates the Wall, Floor, and Mobile Type  
CDX X-Ray Units. I'm also interested  
in having facts and figures about your  
convenient purchase plan.

Dr. ....  
Address .....  
City .....

See pages 66-67

D.D.2

THE DENTAL DIGEST  
1005 LIBERTY AVE., PITTSBURGH, PA.

Here is \$1.00. Please send me a pad of  
50 Ryan Examination and Treatment  
Record Charts.

Dr. ....  
Address .....  
City .....

See page 69

D.D.2

WEBER DENTAL MFG. CO.  
CANTON, OHIO

Please send complete information con-  
cerning Weber equipment. No obligation.

Dr. ....  
Address .....  
Dealer .....

See page 70

D.D.2

KELLY-BURROUGHS LABY., INC.  
143 N. WABASH AVE., CHICAGO, ILL.

Please send information concerning  
Kelly's Paste.

Dr. ....  
Address .....  
Dealer .....

See page 71

D.D.2

WILMOT CASTLE Co.  
1109 UNIVERSITY AVE., ROCHESTER, N. Y.

Please send information concerning the  
Castle "Tru-Vision" Light.

Dr. ....  
Address .....  
Dealer .....



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● The physical properties most desired in a Filling Porcelain are provided to the maximum degree in the new Ames Plastic Porcelain. Its use definitely reduces the effort and enhances the result in all such work.

● You buy single units at the "quantity price." No need to invest money in materials seldom required or in things of a decorative rather than clinical significance.

● Try Ames new Plastic Porcelain. Conforms to A.D.A. Specification No. 9 for Silicate Cements. Establishes a new standard of clinical suitability. Your dealer can supply you. The W. V-B. Ames Company, Fremont, Ohio.

### NOTE THESE PRICES

1 Bottle Ames Plastic Porcelain Powder— $\frac{1}{2}$ oz. \$2.00  
1 Bottle Ames Plastic Porcelain Liquid—14cc. 1.00

# AMES DENTAL CEMENTS